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ABSTRACT

Four issues of this newsletter published by Project ACTT (Activating Children Through Technology), an Early Education Program for Children with Disabilities Outreach Project on educational technology, include the following major articles: "Computer Applications and Young Children with Disabilities: Positive Outcomes" (Patricia Hutinger); "Project ELIPSS (Emergent Literacy Instructional Program and Support Services) To Broadcast Six Interactive Satellite Programs Focusing on Literacy"; "Where There's a Will, There's a Way: Successful Technology Integration: One School's Story" (Letha Clark); "Building Access Bridges with Help from Technology" (Jennifer Bosworth); "Project ECCTS [Early Childhood Comprehensive Technology System]: Putting It All Together" (Robert Rippey); "What Can You Do with Spiders and Ducks?" (Judy Potter and Amy Betz); "Project ACTT Reports Outreach Survey Results"; "Portfolios in the Early Childhood Classroom"; "Imagine It! Do It! Create Software Unique to YOUR Classroom!" (Carol Bell); "Technology that Works: A Research to Practice Approach" (Robert Rippey); "Using Nursery Rhymes and Song Lyrics with Emergent Readers" (Kathy Barclay); and "Curriculum Guide Enhances Software's Focus on Art Activities, Museum Exploration." Also included in each issue are numerous product reviews and announcements, editorials, suggestions for classroom activities, and a conference calendar. (DB)

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ACTTive Technology

Project ACTT, Western Illinois University, Macomb, IL 61455

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..LUME 11, NUMBER 1 Winter 1996

Computer Applications and Young Children with Disabilities: Positive Outcomes

by Patricia Hutinger

Increasingly sophisticated computer technology can meet the needs of children with disabilities in ways that were only dreams until the advent of personal computers. Given increasingly less expensive, more powerful hardware, is it any wonder that more complex and effective interactive educational software makes its way into the marketplace monthly? Yet early childhood educators have been slow in accepting technology applications. Computers have been part of the early childhood curriculum for children with disabilities in scattered programs for the past 15 years; however, only recently the National Association for the Education of Young Children (NAEYC) published a volume edited by Wright and Shade (1994) setting guidelines for computer use. A single chapter refers to technology in programs for young children with disabilities (Behrmann & Lahm, 1994).

> **Over and over children demonstrate the benefits of technology use...computers provide the tools to accomplish tasks children with disabilities have been unable to do.**

Computer-related experiences are notably scare in early childhood curricula, in spite of demonstrated, beneficial technology outcomes for young children, especially those with disabilities. In contrast, a wide range of curricular resources abound that overlook the impact of technology. Nevertheless, computers and their accompanying peripherals and software are integral to society and, contrary to many educators' beliefs, will not 'go away if ignored.'

Positive Outcomes

Over and over children demonstrate the benefits of technology use. Mounting evidence points to a wide range of computer applications that provide worthwhile content related to the activities of young children. For example, an exciting and interactive software program becomes a topic of children's conversations and a potent way to extend ongoing experiences in their daily lives. Equally important, and sometimes more critical, computers provide the tools to accomplish tasks children with disabilities have been unable to do. A very young child can communicate using a computer, switch, and Ke:nx setups before he moves on to a complicated augmentative communication device. An older child who will never be able to hold a pencil to write can use a word processing program with switch input. Voice and eye gaze input are now realities and this is just the beginning!

Inclusion

Computer applications provide the tools to make inclusion possible and easier. The legislative requirement to place children with disabilities in inclusive settings carries with it the need to provide children the support and resources to function in settings with their peers. Appropriate technology applications and adaptations are one way to help children with disabilities operate in inclusive settings. Computers and augmentative and alternative communication (AAC) devices provide the tools for communication, playing, problem solving, and drawing. Arranging space, providing opportunities for use, and making sure the other children are familiar with the child's equipment and potential are important elements of effective inclusion.

For example, a five-year-old who has cerebral palsy and cannot hold a crayon is able to make a scribble or a recognizable image on a computer screen, using a switch and a graphics software program. The child can then print the image onto paper with a color printer. Thus, that child has a tool to participate

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From The Editors. . .

by Linda Robinson

If you look up the word "support" in the American Heritage Dictionary, you'll find nine definitions of the word as a verb and three definitions as a noun. So what does this have to do with technology? "Support" may be a small word for those who have effortlessly received it. But "support" is a very significant word for those who have struggled to get equipment and training they want and need.

To acquire and use technology effectively, we all need that support especially as an action word, "To keep from weakening or failing; strengthen; to provide for or maintain, by supplying with money or necessities; to aid the cause, policy, or interests of; to hold in position so as to keep from falling, sinking, or slipping."

In terms of technology, support means more than money. Training is just as significant a part of that support as is the actual acquisition of equipment and software. Most administrators today will admit that computers need to be a part of their schools. More and more of those in preschool administration are becoming convinced that technology can play a role in young children's education. However, not all of those administrators will admit the need for training support, allowing teachers time and money to receive the training they need. That is where the support falls short. Computers may be more prevalent in classrooms today, but are they being used effectively? The success stories, unfortunately, are still few and far between. We have included a few articles in this issue which address the continued need for support and the wonderful benefits when it is truly put into action.

Training support does not need to be a costly factor for preschool programs; it just needs to be one that is planned. Attending workshops and conferences, such as ACTT VII, may provide the spark of confidence and enthusiasm to lead early childhood staff to use the computer and, in turn, learn even more on their own. By participating in these one or two day training events, staff learn from other participants who may have been in a similar situation the year before. Staff need the opportunity to network and find out they are not alone. Extra support is just a phone call or Internet address away. Support does come in many forms, and the more eager you are to find it, the easier it is to find.

The hardest part of learning to use the computer is finding the time for it. As we found out with the teachers in Jacksonville, Illinois, getting a home computer helped increase their confidence and enthusiasm. They began using the computer as a tool for themselves which made it a lot easier for them to integrate into their classrooms as a tool for the children.

The bottom line is we all need support for anything we do in life, and technology is no exception. "To keep from weakening or failing" we need as much support in using the technology as we did in acquiring it. Take it from teachers and therapists who have success stories to tell at our conference in March. Panel members of our Friday morning opening session will discuss specifics of their own technology support systems. Also during the conference there are opportunities to talk with participants who have experienced varying levels of support. Their survival tips may be helpful for you!

Besides our conference, we have scheduled training sessions for Spring, Summer and early Fall for those who need support getting started with computers or with conducting technology assessments.

Macomb Projects believes teacher support for technology integration is critical to success. We invite you to take advantage of our conference, training, and troubleshooting services as you seek ways to offer the young children with disabilities in your classrooms the equalizing opportunities technology provides.

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in a classroom where other children draw on paper with paint, crayons, and markers. The computer picture can become a part of a class book, can be hung on the classroom wall with other children's artwork, or can be taken home to display on the refrigerator, the classic home art gallery. Moreover, the other children in the class can take turns creating art using computer graphic software.

Teachers and support staff make the difference. Before inclusion becomes a reality, professionals must be trained to use the technology and to see its value for children. A teacher's attitudes about technology, whether s/he believes that technology can actually provide benefits, and willingness to work with the child's assistive devices are also critical factors for a child's successful inclusion using computers and other adaptive technologies.

Social Outcomes

Positive social outcomes can be expected when two or more children work together with almost any software. Technology activities implemented by Macomb Projects are designed to encourage and integrate communication, cooperation, and other social interaction among children and adults. Project ACTT's (Activating Children Through Technology) approach stresses the need for children to explore and manipulate the variety of input and output computers allow. Children must have the opportunity to feel and demonstrate a sense of control over their environment. When this occurs, they are more likely to engage in positive social interaction.

While a single computer can be used by individual children for very specific purposes, it can easily be used by two or more children participating in an activity together. Results of a study conducted by Speigel-McGill, Zippiroli, and Mistrett (1989) indicate that computers facilitate social interaction, especially for children with significant social interaction deficits and speech/language impairments. Lahm's (1995) study of 3-5 year olds revealed the older children preferred to work in groups of two or three, but the younger ones tended to work alone.

When Macomb Projects conducted a follow-up study of children using technology, parents and teachers alike indicated that technology use resulted in increased emotional and social growth (Hutinger, et al, 1994). Using computers, children cooperate to decide how to move a robot, share the keyboard in a game, solve problems (decide what icon to click to move from one place to another in a software program), discuss what they are doing with others, and in many instances, use software without adult direction.

Communication

Computer applications provide a topic for communication, even for children who tend not to communicate. Teachers in early childhood classrooms often see children who do not communicate, whose language is delayed or seemingly non-existent, children who can talk but do not, for whatever reason. Time after time we have seen these children talk, whether it is a question when a Macomb Projects staff member comes into the room, *"Lori, where 'puter?"*, or a child talking about what will happen next in a software program. Lahm (1995) also notes that spontaneous communication occurred when children were excited by the software they were working on, an element that had a positive affect on interactions.

In the early 1980's, Project ACTT used a software program titled **Dragon's Keep** with small groups of children who predicted where they might find hidden items (Hutinger, 1987). Now, more complex programs, such as **Harry and the Haunted House, Pippi** or Fatty Bear's **Birthday Surprise**, yield similar results. Children get so interested in what they are doing that they talk to each other. Children who use graphics programs talk with each other about their drawings and about operating the computer. When one child asks, *"How did you do that?"* even a child who seldom speaks usually answers.

Technology gives children a tool to socialize and use language. Macomb Projects' emergent literacy research staff often observe children engaged in parallel play throughout the classroom. Yet, when the same children are observed together at the technology center, they begin to use language to communicate what they see or what they would like to see.

Teachers can encourage and facilitate children's communication at the computer center by a) providing space for more than one child (two chairs instead of one, allowing children to move chairs in and out of the computer center, allowing children to stand behind those seated at the computer); b) allowing children opportunities to discuss, experiment, and problem solve together; and c) providing interesting and interactive software to facilitate communication and positive social interaction.

Functional Tools

Computer applications serve as tools for children with severe disabilities, enabling them to accomplish tasks they have been unable to do without the technology. Some young children, particularly those with moderate to severe disabilities, *need* to use the tool functions of technology applications in carrying on their daily lives and in participating in normalized settings. Computer applications can serve as equalizers for a child in many situations so that s/he can function in the same settings and similar activities engaged in by typical young children, including playing games, drawing, and making music. Switches, adaptive keyboards, and other high tech devices are examples of assistive technologies that can assist in all these experiences and provide children with disabilities access to the benefits of technology that other children enjoy.

Communication is one area where nonverbal children with severe disabilities have an understandable voice only when they use technology. Com-

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bined with graphics and animation, the added component of speech output is an important contributor to enhancing communication (Meyers, 1986, 1990; Shane & Anastasio, 1989). The speech capabilities of newer computers or the addition of a speech synthesizer to older models provide a voice to communicate or stimulate communication.

Retention

Children retain aspects of computer applications over time, much longer than generally expected. The notion that computer applications represent a class of stimuli so potent that young children with a wide range of disabilities retain their knowledge and skill in what to do with the hardware or software for long periods of time has not received a great deal of attention. Perhaps professional educators are so busy keeping up with new advances and figuring out how to develop applications, that little time remains for leisurely research. Yet Macomb Projects' experiences suggest that this area is a fertile topic for study. Examples of surprising findings follow in the next paragraphs.

The first time Macomb Project's personnel had an indication of retention phenomena was during a study of the effects of the software program **Logo** on ACTT preschool children who demonstrated mild to moderate disabilities (Hutinger, 1987). A version of **Instant Logo** and a pre-post measure were created as part of program evaluation efforts. Children's problem-solving skills, their understanding of directions, and social interaction skills (communication, following directions given by peers, turn taking) increased as a result of curriculum activities using **Logo**. These findings were repeated with Head Start children in the PACT-ACTT Partnership. Surprisingly, after a five-month period during the summer and early fall when the children used neither Logo nor computers, when tested they had not forgotten, but rather retained their Logo knowledge and skills (Hutinger, 1987; 1992).

Computer graphics software also seems to present powerful opportunities for retention. In 1993-94, preschool children with mild to moderate disabilities in the Expressive Arts Project used graphics software such as **Kid Pix** and **EA*Kids Art Center** as part of the art curriculum. During the summer and two months in the fall of 1994, the children did not use computers. When they were introduced to the **HyperStudio** software during emergent literacy activities, the children quickly discovered the graphics tools in the program and began to use them with little adult direction (Hutinger, 1994).

Children seem to retain their knowledge and ability to use alternative input such as the TouchWindow® and switches. In the fall of 1995, for example, children with severe disabilities demonstrated their ability to remember how to access computer software. In the spring of 1993, six children participated in field testing **ArtSpace**. The Macintosh computer and TouchWindow they used were on loan and did not remain in the classroom when the field testing was completed. In the fall of 1995, a computer was again available in the classroom, this time without the TouchWindow. When the field-test children first confronted the computer, to the surprise of both their teacher and the Macomb Projects Expressive Arts staff, their initial response was to move their hands across the screen as if the TouchWindow was present. When the expected results did not occur, the children quickly lost interest.

Further evidence of children remembering over time how to access computers occurs. For instance a visually impaired 11 year old with cerebral palsy, had not used a computer at school for almost 6 months. Yet when he was presented with repaired equipment, he immediately used the switch to control software and did so without adult modeling or prompting.

Summary

Technology can equalize opportunities for children with disabilities, encourage cognitive and social development, and lead to improved self esteem and independence. However, technology is not "magic." While the presence of a computer and adaptive devices in a classroom means accessibility, accessibility alone does not ensure appropriate use. Teacher inservice training and ongoing support are essential since the attitude and skills of classroom teachers and support personnel can either reduce or increase technology's potential for positive child outcomes.

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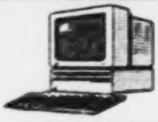

Curriculum ACTTivities

Five Little Ducks Make Big Splash during Storytime!

The following activity was taken in part from the revised edition of **Building ACTTive Futures**, which will be available in Spring, 1996. Each activity will include a suggested learning cycle level for curriculum integration and a coding for teacher/family technology competency level requirements.

Circletime Tales is a storybook program which contains three children's stories, one of which is "Five Little Ducks." This popular story becomes the springboard for many group and individual activities. The children's experience with the story on the computer leads to exploration of families of ducks and their environment. The sounds and motions made in the program lead to activities ranging from simple imitation to identification of a variety of different animal sounds and movements. Through off-computer activities and individual adaptations each child is given the opportunity to participate in experiences related to the story. Many skills, including emergent literacy, cognitive, communication and motor, can be enhanced through the design of the activities.

Materials:
Macintosh LC or higher computer with color monitor
(2.5 MB RAM, 3-10 MB Hard Drive space)
Circletime Tales (Don Johnston Inc.)
Switch Interface and Switch

Ahead of time:

Position the monitor on a low table with the keyboard and computer out of the child's visual field. To limit distractions, cover the pieces of equipment that are not being used by the child. Secure the switch in a switch holder or mount to provide a stable position for activation. Position the monitor so that it is within easy viewing for the children.

Attach a switch to the switch interface or Ke:nx input box. Open the program, **Circletime Tales**, and select the *Five Little Ducks* story. Under "Settings" select one switch. Use a switch interface with a switch or load the "Macintosh Switch Input" set up for switch activation with Ke:nx. Test the switch with the program before the children use it to make sure it is activating properly.

During storytime read the story "Five Little Ducks" in commercial book form or as a book made from the computer screens. Encourage the children to talk about the mother and baby ducks and what happens in the story.

Computer Activity:

In the computer center, encourage children to listen to each page of the story, then press the switch when they are ready to go to the next page. Talk about the action on the screen and encourage the children to imitate gestures relating to the action, such as swimming. Ask the children to predict what will happen next. Talk about how many ducks have left and how many remain. What will the mother duck do? What does the mother duck say? Encourage the children to talk about what is happening in the story and on the screen. Relate the story to ducks in the children's environment.

In a group activity encourage the children to take turns pressing the switch to turn the page in the story. Imitate sounds and gestures relating to ducks and swimming. For younger children, this activity could be conducted with parents and children together.

Related Activity:

Storybook

A storybook can be made from "The Five Little Ducks" program which can be read to the children before, during, or after the computer activity. To make a book, the image from each screen must be captured and printed. Any image on the Macintosh screen can be captured by pressing Command-Shift-3 when using System 7.1 or higher. A camera "click" sound can be heard as the image is captured and saved as a "Picture" on the desktop. This graphic can then be opened in a program,

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Five Little Ducks activity continued from page 5

such as **ClarisWorks** which handles graphics. The image can then be altered, if desired, and printed. Each printed page should be laminated before being assembled as a book.

Play board and duck figures

Create a play board from foam core board which has been covered with a low pile material, such as Tempo. Print out the duck figures from the program using the above storybook procedures. Laminate the figures and attach velcro to them. With the duck figures and the play board, the children can re-create the story starting with five ducks and ending with just the mother duck. The children can explore the figures and make up their own stories. Other objects found in a pond, such as lilly pads, frogs, insects, and fish, can be designed and added to the scene. Attach velcro to all objects and characters so that the children can then play and create their own pond scenes.

Children's own storybook

Encourage the children to draw pictures related to their interpretation of the story. Put the pictures together as a class book. The children can "write" a story on their page. Read the story together as a group. The book can then be sent home with each child to be shared with family members.

Pond Play

Create a pond environment in the classroom with water table and rubber ducks. Encourage the children to explore and recreate their own stories about ducks.

Take a hoola hoop and place it on the floor to represent a pond. The children can pretend to be baby ducks. They can take turns being the mother duck saying "Quack, Quack, Quack," to the babies.

Song and Play

Print out the duck figures and make popsicle stick figures of the mother and baby ducks. Encourage the children to play with the figures and re-enact the story from the computer or make up a new story about the ducks. Look at the similarities and differences between the baby ducks.

At songtime, the children can pass out the popsicle stick duck figures and sing the song about "The Five Little Ducks." The child who is holding the mother duck can select a baby duck to sit down as the ducks go away in the song.

Other Activities:

Read other books about ducks, such as **The Ugly Duckling**. Discuss the differences and similarities in the stories. Also after the children explore **The Five Little Ducks** story, activities could be designed around mother animals and their babies, or the sounds animals make.

Variation with Key Largo

To provide a larger activation area an overlay can be made for Key Largo and Ke:nx so that the entire surface of the device acts like a switch press. A large picture of the mother duck could be placed on the overlay to direct children's attention to the device.

Curriculum Integration Ideas:

This popular children's story can be the focus for many activities in the classroom.

A few ideas include:

Environment:
- Create a pond environment so that children can explore the movements of ducks on water
- Add other objects and creatures to the pond
- Take a field trip to a local pond where ducks live and observe the ducks
- Watch a video of mother and baby ducks and other animals

Sounds:
- Listen for animal sounds in the school or home environment
- Listen to a tape of animal sounds
- Pick out sounds from the animal video
- Listen for animal sounds on the field trip to the pond

Mothers/Babies:
- Explore duck families and other animal families

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Head Start Emergent Literacy Project

Project ELIPSS to Broadcast Six Interactive Satellite Programs Focusing on Literacy

Issues related to literacy and the other side of the coin, illiteracy, have attracted nationwide attention at all levels, including the federal government. The national emphasis on literacy is clear in the two elements of the mandate of Goals 2000, former President Bush's agenda for educational reform, which states that by the year 2000, "...all children in America will enter school ready to learn..." and "every American adult will be literate..." In order to meet this mandate, programs must be implemented to foster emergent literacy for all children, including children with limited English proficiency, non-English proficiency, children from diverse cultural and ethnic backgrounds, children with disabilities, and children at risk of academic failure. At every level, from early childhood through adulthood, literacy is a critical survival component for the citizens of the United States in the Communication Age, no matter what their income or educational level.

At present, 25 percent of American adults read at a fourth grade level or below. Head Start, with its comprehensive approach, commitment to parents, and community focus, provides an ideal vehicle to impact literacy in children and families. Head Start leadership in supporting literacy is reflected in Macomb Projects' Project ELIPSS (Emergent Literacy Instructional Program and Support Services) which focuses on designing and implementing strategies and approaches to support and strengthen the emergent literacy activities carried out by Head Start grantees.

Based on the assumption that literacy begins far before formal instruction and continues for a lifetime, Project ELIPSS is a staff development system that includes

•six Emergent Literacy Training Modules consisting of interactive television programs broadcast nationally via satellite and accompanying written materials. These programs will be broadcast from 5:00 to 6:00 pm, Central Time;

•two Literacy Resource Coordinator Training Modules consisting of two interactive television programs broadcast nationally via satellite and accompanying written materials. These programs will be broadcast from 5:00 to 7:00 pm, Central Time; and

•a Menu of Follow-Up and Support Services which includes various resource directories and a toll-free 800 line staffed by knowledgeable Literacy Specialists available to converse with you personally about the literacy needs of your program and your clients.

The ELIPSS Emergent Literacy Training Modules include

1) *Building a Firm Foundation for Early Literacy Development: Language and Literacy Learning:* Although children differ in their rates of literacy acquisition, there are several stages through which most children progress. Language learning that is functional and related to real-life experiences is an important part of learning to read and write. This program provides a framework of ideas about the development of reading and writing that has influenced strategies for emergent literacy. Included are strategies for helping all children acquire language pleasantly, productively, and appropriately. The program will be broadcast March 5, 1996.

2) *From Scribbling to "Real" Writing: Stages in Early Writing Development:* Given their own writing materials and encouragement from adults, young children convey their curiosity and new ideas through drawing and through writing. Early marks, and scribbles evolve into readable symbols as children express their thoughts through drawings, words and eventually stories. Writing is an area of personal growth that parents, grandparents, teachers and other interested adults can inspire in young children. The developmental stages of writing will be demonstrated during the broadcast, as will a variety of strategies, including technology for promoting emergent writing. The program will be broadcast April 16, 1996.

3) *Developing a Literacy-Rich Environment:* Research supports a strong link between the home environment and children's learning to read and write. Both homes and classrooms that nourish early literacy require a literacy-rich environment. This program includes information and resources to enable teachers and parents to evaluate their learning environments with respect to literacy, and then to enrich those environments to extend literacy experiences across the curriculum. The program will be broadcast May 14, 1996.

4) *Making Quality Children's Literature Available to Every Child: Choosing and Using Literature:* Children's literature is central to the literacy environment. Literature serves as a model for language learning and provides a strong motivation for learning to read and write; it is a springboard for many

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***ELIPSS* continued from page 7**

kinds of literacy-related activities. Suggestions for selecting a variety of literature and strategies for sharing this literature with children at home and in the classroom are the focus of this broadcast, which will air on September 10, 1996.

5) *The Shared Language Time: Beginning Reading Through Rhymes, Songs, Poems, and Big Books:* Using familiar stories, songs, rhymes and poems gives young children a sense of control and confidence as they are developing important understandings about how print works. The Shared Language Time or "rug time" is an excellent vehicle for helping young children develop basic concepts about books and print. This program contains procedures for conducting the Shared Language Time, using Big Books, charts, pocket charts and other materials designed to acquaint young children with the functions, forms and conventions of print. Also included are strategies for encouraging children to respond to literature through a variety of hands-on activities, including technology, art, music, drama, and writing. The program will air on October 8, 1996.

6) *Ongoing Assessment of Emergent Literacy Behaviors:* Ideally, assessment and instruction operate as continuous and simultaneous processes—each serving to inform and shape the curriculum experienced by the children. Accurate records are used by teachers in program planning and in communicating with parents about their children's growth and progress. Examples of how individual teachers might create and implement developmentally appropriate assessment procedures, and how the information gained might be conveyed to parents and other appropriate individuals are among the ideas presented in this broadcast, which airs on November 5, 1996.

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Software Review

Kid Works Deluxe Great Choice for Creative Activities

by Carol Bell

The all in one children's program may be **Kid Works Deluxe™**. This program is more than a "first word processor" program. The new Deluxe version is user friendly and packed with just the right tools. **Kid Works Deluxe** writes, paints and talks. The CD-ROM can be used on Macintosh and Windows.

When entering the program, the user must sign in before going to a main menu where a new story can be started or a story in progress can be opened. After making the choice, the user opens to the cover. The cover can be designed and the story named. When the user clicks on an arrow, the pages turn and an open book appears. Two icons are in the middle of each page. One icon allows the user to choose writing tools while the other icon allows the user to choose painting tools.

When the writing tools are chosen, a series of blue lines appear that look like primary writing paper. The user types in the story. The text style, size and color can be changed in the options menu or by clicking an icon of blocks. Click a sticker book and categories of stickers will appear. A selection of stickers can be chosen from and added to the story. Another way to change text into stickers is to click an icon in the menu icons. Only words that are represented by a sticker in the sticker book will be changed. Clicking an icon under the text page will read the story. Although it is difficult to read inventive spelling, a speech editor is available to help solve this dilemma.

Illustrate the story with the painting tools. When the paint icon is chosen, paint tools appear. A box of crayons appears on the right side for color choices. On the left side at the bottom, paint tools are on a shelf ready to be used. The paint tools include a paint can, a pencil, a ruler, a band-aid for instant clean up, an eraser, a spray bottle, a text tool, a microphone for recording sound and more. Clicking on an apple flag will change the tools to sticker tools that will move a sticker, shrink or enlarge a sticker, flip or rotate a sticker, and delete a sticker. A picture book is available to add a background to the paint page. A sticker maker is also available for creating stickers to place in the story.

If children are having a difficult time choosing a project, story starters are available in the menu. A Grease Pencil tool is available for editing. The program has an invisible cover that can be placed on any page where editing can take place. The child can read the comments, think about them, take the overlay off and make any changes. The creation itself is not altered until the writer and illustrator make the editing decisions.

KidWorks Deluxe, a wonderful program will many possibilities for young children age four to twelve, is available in Macintosh, DOS, Windows, and Mac/Windows CD-ROM versions from Edmark, 800/362-2890, for $89.95.

***Five Little Ducks* continued from page 6**

- Discuss ones that are similar to ducks and ones that are different

Animal Movements:

- Imitate how various animals move in their environment
- Explore the simplicity and speed of their movements
- Compare their movements to human movements

Tempo Material is available from Lockfast, Inc., 10904 Deerfield Road, P.O. Box 42488, Cincinnati, Ohio 45242; 800/543-7157.

Where There's A Will, There's A Way

Successful Technology Integration: One School's Story

by Letha Clark

Incorporating technology into the daily routine can be daunting for the most progressive teacher and downright overwhelming for those not inclined to try new things. For one group of educators, the start on this path stemmed from the realization that they needed technology in their classrooms. In the beginning there was one Apple IIGS computer and a small box of software, four classrooms, and a parent and family program.

Knowing intuitively that lasting results could not be "mandated," the building principal suggested staff agreeing to participate in regular technology training sessions be able to select into the program. Four early childhood and Pre-K teachers, four program assistants, the parent and family program coordinator, and two program assistants made a commitment to began a journey into the world of technology. Little did they know they would learn to speak computerese and literally "buy into" technology.

In 1992, this center in West Central Illinois became a site for Macomb Projects' Technology Inservice Project (TIP). The building principal supported the original training sessions and continued to insure subsequent training sessions. TIP training lasted through December of 1994. Because her staff wanted to continue the monthly sessions, she found a way to underwrite the continued training. Her frequent presence during the training sessions and interest in what was being done demonstrated to her staff the significance of what they were doing.

The individuals involved in the training realized that for their particular group, training at regular monthly intervals was necessary to keep them motivated, maintain their level of interest, and offer them new challenges. The technology trainers involved with this group offered training directly related to the wants and needs of the group. The participants continue to maintain a high level of enthusiasm, keep up a steady flow of questions, and have a ravenous appetite for all things new related to technology.

After the first year, the teachers realized that one computer wasn't going to "cut it" and began to think about a Macintosh computer in each of the four classrooms. It was not a dream but a goal they clearly meant to accomplish. Successful grant writing resulted in the purchase of the first three Macintosh computers and a variety of software titles for young children. The fourth classroom got the Apple IIGS computer. Families of the children in that classroom decided the Apple IIGS was not what THEY wanted for their children, so they embarked on a fund raising campaign to collect enough money to purchase a fourth Macintosh. After a fund raising effort that lasted less than six weeks, the fourth classroom had its own Macintosh computer and software. The Apple IIGS was then passed on to the parent and family program.

While the teachers were struggling to acquire newer technologies for their classrooms they were also busy purchasing computers for their homes. Not

continued on page 10

New Report Summarizes Research On Technology Effectiveness

Report on The Effectiveness of Technology in Schools, '95-'96 by Jay Sivin-Kachala and Ellen R. Bialo of Interactive Educational Systems Design, Inc. is a summary of 176 educational technology research reviews conducted from 1990 to 1995. Research is presented on all age groups from preschool through high school. Information on students with disabilties is also presented.

The report's three sections, Effects of Technology on Student Achievement, Effects of Technology on Student Self-Concept and Attitude about Learning, and Effects of Technology on Interactions Involving Teachers and Students in the Learning Environment, each contain important information for those involved in making equipment, software and other technology-related decisions for a school or classroom. Of particular interest might be the information in the "Curriculum Areas and Student Achievment," "Curriculum Areas and Student Attitude," "Special Populations and Student Achievement," "Special Populations and Student Attitude," "Software Design Characteristics and Student Achievement," "Software Design Characteristics and Student Attitude," and "Characteristics of a Desirable Technology-based Learning Environment."

Educators pay $25 for the report. More information on obtaining the report, contact Software Publishers Association, 1730 M Street NW, Washington, DC 20036-4510, phone 202/452-1600, fax 202/223-8756, http://www.spa.org.

***Technology Integration* continued from page 9**

long into the training sessions, the participants began to discuss the need for a computer at home. One by one, all the teachers and the parent and family coordinator purchased a Macintosh computer for their home and are proactive users of the computer both at school and especially at home. Because they have become successful computer users, and use the computer for their own benefit, they realized the potential for something similar in their parent and family program. The Apple IIGS has become a visiting computer, spending a week in one family's home before moving on to another home. The parent and family coordinator delivers and sets up the computer in each household. Before she leaves, she guides each family through the accompanying software programs.

Having a visiting computer was not enough and did not fill the needs of the adults served by the parent and family program. Another Macintosh computer was purchased and placed in the parent and family room. Interested parties sign up for specific times to use the computer. The environment is non-threatening with no interference by the program coordinator. She is present, however, to answer questions and guide people through any tough spots they might encounter.

These educators and coordinators have moved diligently from the point of, by their own admission, being computer illiterate to a level where their questions are so technical they have caught their school district's technology coordinator off guard and found him unable to answer their questions. They added additional RAM memory to four computers at school, and some added more RAM memory to their computers at home. They have been extremely bold in their willingness to try new things and installed larger internal hard drives in the three computers with small internal drives to accommodate their growing library of software.

One teacher's enthusiasm spilled over from the school year when she volunteered to provide computer workshops during the summer for grade school children. Others had seen her energy and wanted some for themselves, so she was "drafted" by the district administration to hold a week long technology training for the district's kindergarten teachers.

Four years ago everyone in this group was afraid to turn on the computer, thought that a 5.25" disk was a floppy disk and a 3.5" disk was a hard disk. They didn't know the difference between hard drive space and RAM memory and thought that a megabyte was a really big bite of something. Even in their wildest dreams they would never have visualized a computer in their homes. They often laugh at where they started and continue to be amazed at how far they have come:

•They never thought they would install their own RAM memory or replace hard drives that were too small.

•They had not heard of **HyperStudio** and never thought they would be able to create their own software.

•They were shy about what they didn't know and would never have flaunted their expertise, but they recently displayed a **Kid Pix** Slide Show (pictures and sound done by the children in their classrooms) for a family holiday celebration. The children loved it. The families loved it. The staff loved it. The teachers were pleased and proud! They didn't know that wanting technology in their classrooms would lead to all this. It seemed like such a little thing.

This school's technology success story happened because of a combination of positive elements that can be replicated by any school. Contributing to the school's success was a supportive administrator who provided encouragement and training opportunities for her staff, committed teachers who were willing to take risks and try something new both at home and in the classroom, and involved parents who were excited by the opportunities technology offered their families and who supported their school's efforts for technology integration.

The result? A win-win situation. Everyone benefited—the teachers, the parents, and especially the children.

Big Keys Offers Alternative to QWERTY for Early Learners

If the standard QWERTY keyboard confuses your early learners, give Big Keys a try. Big Keys, a keyboard designed especially for early learners, features an ABC layout. The brightly-colored 1" square keys are easy for youngsters to see, find, read, and press. Best of all, the keyboard works with all DOS, Windows, and Macintosh programs.

Big Keys is built to last. It has an internal steel key frame, high-impact injection-molded ABS case and keys, coated letters that won't wear off, and rigorously-tested top-quality ALPS switches.

An optional Co-Pilot cable allows Big Keys to be used at the same time as a standard keyboard.

Big Keys ($89.95 for PC) and ($105.95 for Macintosh) is available from Technology for Education, Inc., 2300 Lexington Ave. S. #202, St. Paul, MN 55120; 612/686-5678, fax 612/464-6078.

Videos from RESNA Provide Helpful Assistive Technology Information

The RESNA technical assistance project has a series of seven videos available which provide information useful to third party payors and are excellent sources of general information on assistive technology.

Communication: The Key to Teamwork (20 minutes) defines and discusses assistive technology and the workings of the delivery system.

Assessment: The Critical First Step (23 minutes) offers a first-hand look at assessment for technology.

Seats: The Bottom Line (37 minutes) offers insights into the variety of seating options that are available and how they can meet individual needs.

Backs: Correction or Accommodation (23 minutes) examines the ins and outs of both static and adjustable back support options and how each fits into the overall mobility system.

Manual Mobility: Finding the Right Wheels (26 minutes) compares chairs and the array of options offered.

Powered Mobility: Moving Toward Independence (30 minutes) compares systems and suggests questions to ask of a technology team.

Augmentative Communication: Finding A Voice (30 minutes) shows various systems in use in many environments and discusses how to match systems to user needs.

Each video has both an open captioned and a non-captioned version and costs $30.00. A sampler showing five minutes from each of the 7 videos is available for $25.00. The seven-series set costs $130.00. An additional $5.00 is charged for purchase orders.

Order from RESNA Press, Dept. 4006, Washington, DC 20042-4006.

1996 Dates Set for Macomb Projects' Technology Assessment Process Training

Young children with severe and multiple disabilities will benefit from using the tools made possible by assistive technology, if those tools are appropriate for the child's needs. Before effective technology applications can be determined for individual youngsters, an appropriate team-based technology assessment should be conducted as part of the child's comprehensive assessment.

Project TTAP (Technology Team Assessment Process), an Early Education Program for Children with Disabilities funded project, has recently begun its second year of outreach training. TTAP's team-based assessment procedures are designed to determine appropriate assistive technology applications for children and have widespread benefits including

- foundation for using technology to equalize a child's opportunities;
- suggestions for incorporating assistive technology into IFSP or IEP goals;
- justification of equipment purchases;
- information to families, early intervention personnel and agencies about appropriate technology applications for an individual child.

1996 TTAP training sessions been scheduled for April 10, 11, and 12; July 31, August 1, and 2; and Spetember 25, 26, and 27 at Western Illinois University. Project staff also are available to conduct training at your school. Videotape of an assessment is used during training, or arrangements can be made for TTAP staff and your site team to evaluate a child from your site.

To register for training or for more information, contact Linda Robinson, TTAP Coordinator, Western Illinois University, 27 Horrabin Hall, Macomb, IL 61455; 309/298-1634; fax 309/298-2305.

Single-switch Software Games Feature Favorite Dinosaur Characters

Four dinosaur-theme single switch software games are available for IBM and Macintosh computers. **DINO-DOT** is a collection of dot-to-dot games. Connect the dots (choose patterns of 3, 6, 9, or 12 dots) and colorful animated dinosaurs appear. Mode of play, level of difficulty, auditory feedback, and scan speed can be set.

DINO-FIND is a concentration game that stimulates memory and pattern recognition and provides scanning practice. Switch users make selections using row/column or linear scanning methods.

In **DINO-MAZE**, characters move through mazes to reach goals. Single-switch users can choose between cause and effect activities or games that involve decisions about which direction the animated characters should go.

DINO-LIKE is a matching game. Single-switch users select dinosaurs that are identical to the target dinosaur. The discrimination level can be set choosing a match and two distractors, a match and one distractor, or the match alone. Color, shape, and orientation are used to enhance pattern and matching skills.

The four games sell for $25.00 each. Order from Academic Software, Inc., 331 West Second Street, Lexington, KY 40507; 606/233-2332.

Training Agenda: Activating Children Through Technology

Are you looking for a way to improve your own computer skills and at the same time discover appropriate, meaningful strategies for integrating computers and adaptive devices into your early childhood classroom? If so, check out the ACTT Training Schedule below. It's designed to meet your needs!

Macomb Projects will sponsor ACTT (Activating Children Through Technology Training) the week of June 10. The five-day training covers a variety of topics from beginning computer use to technology assessment procedures. Each day is designed with instructional content and hands-on computer time.

The training costs $300/person for the entire week. Use the form on this page to register or call 309/298-1634 for more information.

Day 1:
Introduction to Computer Operations

- Philosophy of Using Technology with Young Children
- Computer Terminology
- Equipment Selection
- Computer Operation and System Set-up
- Computer as a Tool for Early Childhood Personnel and Families

Day 2:
Software and Input Method Selection

- Software Evaluation
- Input Methods - Applications and Assessment Considerations
  - -Switch
  - -Touch Tablets
  - -Mouse
  - -Keyboard
- Construction of Tread Switch and Battery Interrupter (afternoon session - optional)

Day 3:
Curriculum Integration

- Designing Computer Environment
- Computer Management and Classroom Design
- Curriculum Integration Plan
- Curriculum Applications for Young Children
- Family Involvement Procedures

Day 4:
Customized Applications

- Customizing Applications with IntelliKeys
  - -Discussion and Demonstration
- Customizing Applications with Ke:nx
  - -Overview of Functions
  - -Ke:nx Hands-on Workshop
    - Scanning Set-up
    - Key Largo Set-up

Day 5:
Technology Assessment

- Benefits and Purpose of Technology Assessment and Team Approach
- Overview of Assessment Procedures
- Conducting an Assessment*
  - -Before the Assessment Procedures
    - Reviewing Background Information
    - Planning the Assessment Agenda
  - -During the Assessment Procedures
    - Assessing Reliable Movement, Positioning, Equipment Placement
    - Determining Input Method and Curriculum Applications
    - Recording Observational Data
  - -After the Assessment Procedures
    - Making Recommendations
    - Writing the Report
- Funding Tips and Resources

*Participants will review written information and videotape from selected child's assessment.

ACTT Training Registration

YES! Register me for ACTT Training. I have indicated the days I will be attending and have enclosed a purchase order or check with this registration.

Name: ____________________
Address: ____________________
City: ____________ State: ______ Zip: ______
Phone (Day): ____________________

______ June 10
______ June 11
______ June 12
______ June 13
______ June 14

Training costs:
$100 - one day
$150 - two days
$200 - three days
$250 - four days
$300 - five days

Please give us some idea of your experience with computers:

Return this registration form with your check, money order, or purchase order to Macomb Projects, ACTT Training, 1 University Circle, 27 Horrabin Hall, Western Illinois University, Macomb, IL 61455. Call 309/298-1634 for more information.

KEYNOTE SPEAKER AT ACTT VII TO FOCUS ON BUILDING 'ACCESS BRIDGES'

Dr. Lynne Rocklage, Associate Professor at Eastern Michigan University, will be the keynote presenter at the ACTT VII Conference in March. (See page 16 for additional information about the conference sessions.) Dr. Rocklage's keynote address to conference participants on Thursday, March 14 will be "Building 'Access Bridges' with Help from Technology."

Rocklage points out that technology is a real key to making school, home, and community activities more inclusive for children with disabilities and that, whether the focus of technology for children with disabilities is on high-end, mid-range, or low-end technology devices, strategies, or modifications, technology forms an "access bridge" to grant children more active participation in life's events.

Rocklage will discuss the time and creativity needed to construct those access bridges and present ACTT VII participants with ideas for helping children with disabilities through technology.

Later on Thursday and again on Friday, participants will have opportunities to attend Dr. Rocklage's sessions that focus on low-end technology devices which facilitate and support a young child's access to, and interaction with, technology. "Clean Out Your Closets and Gather Your Junk! (An Adventure in Low-end Technology") will demonstrate how creativity and imagination on your part plus some "junk" and/or inexpensive "stuff" can result in a fun, appropriate device that a child can use to interact with his environment.

Davidson Software Grant Program

Davidson & Associates administrates a grant program through which persons can request Davidson software donations. The grants are awarded each year on January 31 and August 31.

The two-page grant request form requires that you explain how your organization plans to use the software, what results you hope to achieve with the software, and why you have selected Davidson software as part of your curriculum.

You will also need to describe the hardware the programs will be running on, list the titles you are requesting, and number of copies needed of each.

If you are interested in applying for a Davidson software grant, contact Anne Weber, Grant Administrator, Davidson & Associates, 19840 Pioneer Avenue, Torrance, CA 90503.

Administrative Support Essential for Successful Technology Implementation

The following article is an excerpt from the final report for Macomb Projects' Technology Inservice Project (TIP), a model inservice project funded by the U.S. Department of Education's Early Education Program for Children with Disabilities.

Administrative support is essential if any classroom, program, or agency is to implement assistive technology successfully; however, teachers also have to be involved in the decisions to participate in the workshops. TIP trainers experienced two general types of administrative support, one which benefited the inservice training and subsequent events, the other which undermined training efforts.

Technology inservice training sessions imposed by the administrator without input from the participating teachers were unsuccessful, for the most part. If the teachers themselves had little desire to understand and use technology, if they had no input as to the inservice topic, or if they saw the technology as yet another "thing the administration was making them do," attempts by TIP trainers to get them excited about technology and eager to implement it in their classrooms usually fell flat. However, once in a while, teachers overcame their initial resentment of the workshop and responded to the trainers. Comments on workshop evaluations from such teachers indicated, *"I didn't want to be here at first, but you made the computer look so easy. I had fun and learned a lot."* and *"I thought I'd hate this workshop, but I got some great curriculum ideas."*

Training was most successful when teachers and administrators planned together for TIP workshops. Whether the initial idea to host a TIP workshop was a teacher's idea or an administrator's idea, if there was collaboration, the results were good. When either group tried the workshop without support and input from the other, events often did not go smoothly. If teachers organized or pushed for a technology workshop without administrative support, the workshop itself was successful but, since there was no administrative support and follow through, teachers' initial excitement about implementing technology turned to frustration due to the administrator's lack of enthusiasm.

ArtSpace —An Interactive Museum Adventure

Take an interactive adventure to an art museum when you tour **ArtSpace**, the new CD-ROM from Macomb Projects. Developed for easy access by young children with disabilities, **ArtSpace** contains features that will delight children and adults alike.

ArtSpace can be accessed using the mouse, a TouchWindow, or a switch. Options for scanning and prompts are available for users who need them.

Begin your journey in the lobby of the **ArtSpace** museum where you will meet Trevor, the child guide who provides you with information about the museum's features and galleries and who is available to give you prompts when it's time to activate a switch.

Choose to enter one of two galleries, The Adult Gallery or The Children's Gallery. In The Adult Gallery, you will see works of art made by adults, some of them famous, some of them whose importance to the art world is yet to be recognized. The Children's Gallery contains art work from preschool and elementary school children. Both galleries contain examples of both two and three dimensional artworks. See video of various artists discussing their work or explaining a process, such as an adult explaining print making or bronze pouring or children demonstrating finger painting or collage making. Listen to people's comments about each picture, sculpture, or image and use them to generate your own discussions or thoughts about each work. See close-up views of each art work and listen to music which reflects the mood of the piece.

Encased in ormate frames in each gallery hallway are the choices of pictures that can be viewed close up. If none appeal to the gallery visitors, they need only click the next hallway to see new choices. And there's always a way to get back to the main lobby (a sculpture made of colorful building blocks) or to quit if time is short or visitors would like to explore the other gallery.

Categories may be selected for a "QuickTrip" through the **ArtSpace** galleries, or visitors may choose to browse through randomly selected rooms at their leisure.

Back in the lobby, a third choice for exploring **ArtSpace** is The Studio, the special place in **ArtSpace** where children with disabilities who otherwise may not be able to create marks, may participate in a simulated drawing experience and recreate their favorite drawings from among the 113 that are available as choices. Drawings are accompanied by music. Each drawing may be printed in color.

ArtSpace requires at least a Macintosh LC with System 7 or higher, a 14" or larger color monitor, and 4000 K of free RAM memory.

Order the **ArtSpace** CD-ROM by using the special order form below. Make a $29.95 investment in art for your classroom today! Humor, music, video of real people doing real things, and lots of beautiful artwork combine to make this progam a great addition to the classroom software library.

Purchase orders may be sent to Macomb Projects, 27 Horrabin Hall, WIU, Macomb, IL 61455. Use the coupon below and SAVE $5.00 by avoiding shipping costs!

Yes! I want my classroom to enjoy *ArtSpace* at the special price of $29.95. I understand that using this order form (or a photocopy) saves me $5.00 in shipping charges. My check to Macomb Projects or purchase order is enclosed.

Send a copy of *ArtSpace* to

Name ______________________________
Address ______________________________
City ____________________ **State** ______ **Zip** ________
Phone (____) ____________________

Send your order to Macomb Projects, 1 University Circle, 27 Horrabin Hall, Western Illinois University, Macomb, IL 61455.

***ELIPSS* continued from page 8**

Register for the broadcasts by contacting Project ELIPSS at 309/298-1634; fax 309/298-2305. While it is not necessary to register to view the programs, you must register if you wish to receive program viewing guides. There is no fee for Head Start personnel. Copies of the guides are available to others for a small fee. Video tapes will be available after each broadcast. Participants may register for credit or CEUs from Western Illinois University for participating in all six broadcasts. Call ELIPSS for more information about credit.

Persons interested in being Literacy Resource Coordinators (LRCs) at downlink locations may view the LRC training broadcasts on February 6, 1996 and August 20, 1996 from 5:00 - 7:00 pm, Central Time. If you miss the first broadcast but are interested in facilitating at a site, you may request a video of the first training broadcast.

Project ELIPSS is funded by the U.S. Department of Health and Human Services, Administration for Children, Youth, and Families, Head Start Bureau.

The ACTT VII Conference !!

What is the ACTT Conference?

The ACTT (Activating Children Through Technology) Conference is a small, informal technology conference which offers sessions and hands-on opportunities to learn about using computers and adaptive peripherals for young children with disabilities. The March 14-15, 1996 conference is the seventh annual assistive technology conference sponsored by various funded projects at Macomb Projects in Macomb, IL. The ACTT VII Conference is only one of a variety of services and training opportunities Macomb Projects makes available to parents, teachers, and other professionals who work with children age birth through eight with disabilities.

Who should attend ACTT VII?

ACTT VII is for anyone who desires assistive technology information and training. Teachers, parents, program assistants, school and program administrators, university professors, students, and State Part H and 619 coordinators have comprised the participant lists of past ACTT conferences. Everyone who wants to learn more about assistive technology applications for children ages birth through eight is welcome! However, registrations are limited. We keep the conference small to provide personal attention, hands-on opportunities with the equipment and software, and plenty of networking opportunities among participants.

What topics are covered?

Past conference sessions have featured ways to integrate technology into the early childhood classroom, creative curriculum activities, hands-on experiences with a variety of adaptive peripherals, preview labs for commercial and public domain software, opportunities to make switches, Ke:nx workshops, information on technology assessments, expressive arts and technology, augmentative communication, results of research on the barriers and benefits of assistive technology, previews of new products, and panels of parents and teachers.

Who are the presenters?

The core group of presenters is comprised of the staff of various projects belonging to Macomb Projects. These trainers, technology specialists, and early childhood specialists provide assistive technology training and technical assistance to teachers and families throughout the year. They have presented workshops and training sessions for schools and agencies across the country, as well as sessions at Closing the Gap, TAM, DEC, CEC, and other state and regional conferences. The 1996 Conference features Lynne Rocklage as the keynote speaker and presenter. Dr. Rocklage is well-known for her work with low-cost, low-end technology. The ACTT Conference also welcomes interested persons from other technology projects, agencies, or companies to apply for a presentation at ACTT VII. Presentation proposal forms are available by calling 309/298-1634 or faxing 309/298-2305. (ATTN: Joyce)

When and where will ACTT VII be held in 1996?

ACTT VII will be held on March 14 - 15, 1996 in Horrabin Hall on the Western Illinois University campus in Macomb, IL. The conference begins each day with a continental breakfast and opportunities for participants to meet informally. Most sessions last an hour and a half, but some hands-on sessions are 1/2 day sessions. The conference ends by 4:00 each day. Breakfasts, lunches, and sodas during breaks are included in the registration fee.

How can I be part of ACTT VII?

Just fill out the registration form on the reverse side and send it with your check or purchase order to ACTT VII, 27 Horrabin Hall, Western Illinois University, Macomb, IL 61455. If you have questions or would like to give a presentation, call 309/298-1634 and ask to speak with Joyce.

Where Do I Stay in Macomb?

The Macomb Inn (309/833-5511) is offering special conference rates. Mention the ACTT Conference when you call. Other lodging: AmeriHost (309/837-2220), Super 8 Motel (309/836-8888), The Pineapple Inn Bed and Breakfast (309/837-1914).

What presentations are being offered at the ACTT VII Conference?

"Something for everyone" has been the by-word for all our conference planning. Among the presentations scheduled for ACTT VII are:

- Popular Preschool Programs
- HyperStudio: An Affordable Alternative
- How to Create a Low-Cost Electronic Classroom
- Ke:nx or IntelliKeys - Which One?
- Switch Construction Workshops
- Preview Lab: Macintosh Software
- HyperStudio: Creating Software Unique to Your Classroom
- What Can You Do with Spiders and Snakes?
- Exploring ArtSpace
- Early Findings: Emergent Literacy and Technology
- Clean Out Your Closets and Gather Your Junk! (An Adventure in Low-End Technology)
- Express Yourself: Expressive Arts in Early Childhood Settings
- Building Access Bridges with Help from Technology
- Once Upon A Computer
- Great Software Titles for the Macintosh
- Techniques for Integrating Technology in an Inclusive Preschool Setting
- Adaptive Peripherals
- Developmental Goals Through Technology Assessment
- ClarisWorks and You
- Instructional Graphics for Beginners

The ACTT VII Conference is being partially supported by Illinois STARNET Regions I & III, funded by the Illinois State Board of Education.

ACTT VII Registration

Name ________________ Agency ________________
Address ________________ City ________________ State ________ Zip ________
Phone where I can most easily be contacted ( ) ________________

Registration fees include continental breakfasts, lunches, and sodas each day.

Regular Registration

____ $55 enclosed for the two-day conference
____ $35 enclosed for Thursday, March 14 only
____ $35 enclosed for Friday, March 15 only

Parents of young children (0-8) with disabilities

____ $35 enclosed for the two day conference
____ $20 enclosed for Thursday, March 14 only
____ $20 enclosed for Friday, March 15 only

____**Check if you require special accommodations**

What accommodations are required?________________
____
____

Special Deals:

____ $45 enclosed per person for Group Registration (four or more people from the same agency)
•Send All Group Registration Forms Together with Payment or Purchase Order

Registrations postmarked after March 1, 1996 are $65 for two days; $45 for one day.

Questions? Call 309/298-1634. Ask for Joyce

Your payment or purchase order must accompany registration. Phone registrations will not be accepted. Make checks and money orders payable to Macomb Projects (U.S. Funds only, please). Send payment and registration to ACTT VII Conference, 27 Horrabin Hall, Western Illinois University, Macomb, IL 61455.

Anyone For Volleyball?

NUDIST Aids Project's Research

by Robert Rippey

In analyzing the data from the Early Childhood Comprehensive Technology System (ECCTS) Project, Macomb Projects will be using a computer program with the provocative title NUDIST. The title means Non-numeric Unstructured Data Indexing, Searching, and Theorizing. This program, originating in Australia, has recently become available in the United States. Its purpose is to protect qualitative researchers from being swallowed up by their data.The program indexes not only field notes but also photographs and audio and video tapes.

The ECCTS Project, just beginning the first of three years at the comprehensive Just Kids Early Childhood Learning Center at Middle Island, NY has four components. It will

1) train the Long Island teachers to implement the ACTT curriculum and the TTAP assessment process;

2) study closely the interaction between children with moderate disabilities and computers;

3) record changes in family relationships as the computer enhances student learning and function; and

4) dissect the relationship between local, state and federal policies in encouraging or impeding the development of comprehensive technology applications in a school with a long history of mainstreaming students with disabilities.

As you can imagine, these four project components will generate a sea of data. To calm the waves, the program pigeonholes each tape, each interview, and each document according to a flexible index system called a "tree." For example, in the second component, which studies the interaction of children with computers, the tip branch of a tree might be identified as "Study/Child/Computer/Results/Communication." This set of attributes would then retrieve all documents which related to children in the study working with computers in situations where communication was enhanced. The data can also be searched for single words like "HyperStudio," or individual student names like "Henry." More complex questions can be formulated and answered, such as "What changes in communication behavior occur when autistic children are introduced to the computer program, **The Back Yard**?"

NUDIST is a boon to the qualitative evaluator because it requires organizing data before, during, and after acquisition. Observations and interviews do not easily convert into graphs and tables. In summarization, data often lose their immediacy and intimacy. In making detailed observations over a long period of time, records multiply like rabbits. My four drawer filing cabinet may hold most of my first year data, but to collect in one place all references to Waldo is like looking for a needle in a haystack unless Waldo leaves a trail behind him in the computer. Qualitative evaluation is used extensively in this study because the meanings of what teachers and children do are more important than the number of times they do them. To get at the meaning, the actions of children and teachers must be interpreted in terms of their context, not their frequency. **NUDIST** promises to make this possible.

Video Examines Assessment, Discusses Six Levels of Switch Progression

Developmental Goals Through Technology, a one-hour videotape, features Project TTAP (Technology Team Assessment Process) personnel Linda Robinson and Carol Schneider discussing the need for technology assessment and TTAP's assessment procedures. Levels of switch progression identified by TTAP personnel are demonstrated and discussed as they relate to technology assessments. The program also includes video footage taken during actual TTAP assessments.

A packet of materials accompanies the videotape. It includes an outline of TTAP's assessment process, directions for making a customized switch holder, suggested software to use with both Apple II and Macintosh computers for the six levels of switch progression, TTAP observation forms, a curriculum activity, suggested early childhood software, commercial software resources, public domain software resources, switch resources, and peripheral resources.

The video was produced by STARNET as part of its 1995-96 APPLES Magazine satellite broadcast inservice series. It may be purchased from STARNET for $49.00 (less for Illinois residents). Contact Tiffany at 27 Horrabin Hall, Western Illinois University, Macomb, IL 61455; 309/298-1634 or 800/227-7537.

Come to ACTT VII

Watch Lynne Rocklage, Keynote Presenter, demonstrate wonderful ideas for creating low-cost (or no-cost) low-end assistive technology.

Register today for super savings!

The registration form is on page 16.

Why a Laminator?

by Terry Carley

"Mom, look what I did at school today!" At our house, these words preceded the proud posting of special drawings and other items on the refrigerator for everyone to see. But what happens to these items when the time comes for them to be taken down and replaced with a newer drawing? Laminating helps preserve those special keepsakes that both children and parents are so proud of.

You can laminate items of all types and sizes: posters, newspaper clippings, continuous form computer paper, laser paper, copy paper, and photos. Almost anything can be laminated. Laminate items you might want to save and use over again in your classroom, such as gameboards, maps, charts, and overlays for use with Ke:nx, IntelliKeys, or any other communication device. Laminate book covers; books that the children have made with their own art work; cards to create write-on, wipe-off teaching aids; artwork; luggage tags for computer or camera bags; instructions for computer use for children; schedules; banners—and more!

Laminating is quick and easy and offers many advantages:

- helps protect against dirt, moisture, and normal wear and tear;
- provides permanent waterproof and tear-resistant protection for communication overlays; and
- preserves frequently used papers, schedules and charts.

There are only a few disadvantages to laminating:

- printed matter from solid ink printers (such as a Jolt printer) can not be laminated because finished items have a wax coating that will melt during lamination;
- items could wrinkle going through the laminator, so if you have only one copy of an item, be extra careful about laminating it.

Laminators vary in types, sizes, and prices and use anything from laminating pouches to rolls of laminating film. For example, the Easy Lam laminator is 27" wide and uses film 500' in length. The Easy Lam uses 2 rolls of clear laminating film with either 1.5 mil or 3 mil. thickness. Some of the laminators on the market include

- the Boston Laminator with 4" pouches;
- the Desktop Pouch Laminator (Lakeshore) which takes up to 8 1/2 x 11 paper;
- Easy Lam Laminator (WJM Plastics, Inc.); and
- Apollo Roll Laminator (Quill).

Laminators can be helpful for preserving items for classroom and home. However, before you rush out to purchase a laminator, carefully consider your needs and the options offered by the various laminators on the market. Contact the following companies for information about their laminating products: Lakeshore, 2695 E. Dominquez St., P.O 6261, Carson, CA ; 800/421-5354; Quill, P.O. Box 94080, Palatine, IL; 800/789-1331; and WJM Plastics, Inc., P.O. Box 2407, Davenport, IA; 800/553-7572.

Guide to Toys for Differently-Abled Children Available

Toys "R" Us has developed a third issue of the Toys "R" Us Toy Guide for Differently-Abled Children. Each toy in the guide was tested by Lekotek, an organization specializing in the evaluation of toys for differently-abled children. Toys were tested and are coded for 10 developmental areas: auditory, language, visual, tactile, gross motor, fine motor, social skills, self esteem, creativity, and thinking.

For more information about the Guide, contact one of the following.

National Parent Network on
Disabilities
1600 Prince St. #115
Alexandria, VA 22314

National Lekotek Center
2100 Ridge Ave.
Evanston, IL 60201

Toys "R" Us
461 From Road, 4th Fl.
Paramus, NJ 07652

For individualized assistance on toys and play for children with disabilities, call the Lekotek Toy Resource Helpline at 800/366-PLAY.

NAEYC Book Addresses Technology and Early Childhood

In recent years, educators have debated the role of computers in a developmentally appropriate early childhood program. In **Young Children: Active Learners in a Technical Age**, editors June Wright and Daniel Shade have brought together experts from the field of technology and early childhood to discuss how, why, and when computers should be used in early childhood programs. Topics covered include software evalution, integrating technology into the curriculum, and interactive technology. One chapter discusses applications for children with special needs. For ordering information, contact the National Association for the Education for Young Children, 1509 16th Street NW, Washington, DC 20036-1426; 800/424-2460.

Software Review

Imagination, Creativity — Destinations on the Imagination Express

Imagination and creativity are words synonomous with children, and Edmark's **Imagination Express** series (Mac/Win CD-ROM) is designed to encourage to children to imagine, create, explore — oh, yes and LEARN — all at the same time!

Five programs are available in the series, which is recommended for grades K - 8. Each program provides opportunities for children to select background scenery, choose and animate characters, record conversations, write stories, narrate pages, add music and sounds, and make movies. Teachers can turn off various features to adjust the software to the ages and abilities of individual students.

Destination: Rain Forest lets students interact with scenery, animals, insects, and sounds found in a tropical rain forest.

Destination: Neighborhood centers around the familiar sights and sounds of neighborhood life: tree houses, parks, schools, shopping centers.

Destination: Castle provides opportunities to explore aspects of medieval life: countryside, castles, people, furnishings, costumes, and dragons.

Destination: Time Trip, USA makes studying US history fun! Backgrounds and stickers reflect the evolution of architecture, invention, fashions, and entertainment from the early 1600's to the present.

Destination: Ocean makes the mystery and wonder of the sea come alive. Dolphins, whales, all kinds of fish and plant life, as well as undersea divers are included.

System requirements (Macintosh): 256 colors, CD-ROM drive, System 7 or higher, 8 MB RAM, 13" or larger monitor, hard disk.

System requirements (Windows): Windows 3.1 enhanced mode, CD-ROM drive, 25 MHz 386 or better, 8 MB RAM, 256 color Super VGA, hard disk, mouse, sound-output device.

Each program sells for $59.00. Contact Edmark, P.O. Box 97021, Redmond, WA 98073-9721; 800/362-2890.

Low-tech Adaptations for Arts Activities

by Amy Betz and Judy Potter

Need ideas for ways to help children participate in expressive arts activities? Is a computer out of your price range? Do you need some activities to supplement your computer software? This is the first in a three-part series about low-tech adaptive devices for the expressive arts. This article will identify some adaptive devices for the visual arts such as, drawing, painting, and collage. Here are some easy, fairly inexpensive adaptations to try.

A Magna Doodle® or Super Color Writer can easily be adapted for children with physical disabilities. Place some foam rubber or pipe insulation around the magnetic drawing pen to provide a larger grip. Cut film canisters and attach the drawing discs to give a better grip. The same can be done with the Spiral Art accessory set. Custom make your own magnetic drawing tools in various sizes and shapes from magnet strips, then glue them to film canisters. Using these tools, children learn about line, one of the basic art concepts. Language development can be encouraged by describing the lines children made. Are they skinny, fat, short, long, straight or wavy?

Adapt markers, crayons, and chalk for children who need larger grips by wrapping pipe insulation or masking tape around the drawing tools. If children have unstable movements or tend to make faint marks, make the drawing tools heavier by placing fishing weights or drapery weights on the end of the tools. Weighting is especially helpful when children use light colors or pencils.

Paint brushes can be adapted the same as drawing tools. Rollers can be adapted with extenders, allowing children in wheel chairs to participate in floor painting. It is also a new, creative way for all children to explore painting. Adjustable table top easels or even book stands can be used to permit access for children in wheel chairs. Other paint tools include roller bottles or dabber paints (similar to bingo markers, which can also be refilled and used). Be sure to use non-toxic paints.

Gluing can sometimes be a frustrating experience for a young child. You can make it successful by creating sticky boards. Wrap clear adhesive paper around one side of a large piece of cardboard, sticky side on top. Fold the edges over to keep adhesive paper in place. A sheet of construction paper can be placed between the cardboard and the adhesive paper to provide an interesting background. Children who do not have the dexterity or strength to squeeze a glue bottle or use glue sticks will be able to place collage items on the board. Objects placed on the board can be repositioned easily.

Did You See the List of Presentations for the ACTT VII Conference?

Check out page 16

Supporting Classroom Diversity

African Folktale Contains Classic Elements of Challenge and Reward

by Letha Clark

ACTTive Technology provides this column as a regular feature for helping teachers use technology to expand their curricula to include cultural awareness and diversity.

One of the three **Magic Tales** by Davidson, **Imo & the King** is an African folktale that provides some insight into the culture and life of East Africa. The king of an African country has a daughter but no son. He extends a challenge to the young men of his nation to pass three tests and become the prince. Imo hears of the challenge and leaves his village amid the laughter and jeers of his tribesmen, who are positive Imo is neither prince material nor up to facing the king's challenge.

On his journey to the king's palace, Imo comes upon creatures needing his help. Because of Imo's kind acts, each creature promises to be there for him in the future. When Imo's journey to the palace is finished, he immediately begins the tests that may make him prince. One by one Imo calls on those he's befriended to accomplish the otherwise impossible feats. With the help of his magical friends, Imo becomes the prince.

As each new page of this interactive book appears on the screen, the text is highlighted and read. Hidden "hot spots" offer unpredictable actions to enhance the story. Young users can explore each page in depth and have the page reread as often as desired.

The story of **Imo & the King** contains the elements common to folktales. There is the king, the quest, the "set" of three (tests, trials, objects), and the reward. **Imo & the King** provides an excellent way to bring African folktales into the classroom for the benefit of all children.

Imo & the King is available on CD-ROM in a set containing two additional **Magic Tales** titles ($78.95) or as a single CD-ROM ($36.95) from Educational Resources (800/624-2926). **Imo & the King** is also available in a single title only ($36.95) from Edutainment (800/338-3844).

Diversity-sensitive Classrooms Focus of Video

Starting Points: Multicultural Education in the Everyday Classroom is a 24 minute video providing a rationale for creating a classroom environment sensitive to all people. Examples of ways literature can be used to as a starting point for diversity-sensitive learning environments are included in the program.

J.Q. Adams from the Western Illinois University Department of Education Foundations, Nancy Chu from the Western Illinois University Elementary Education and Reading Department, and two early childhood teachers who have begun implementing a multicultural curriculum are featured guests on the program.

Starting Points: Multicultural Education in the Everyday Classroom ($49.00) was produced by Macomb Projects' STARNET Regions I and III (funded by ISBE). For more information, contact Tiffany at 800/227-7537 or send a check or purchase order to STARNET I and III, 27 Horrabin Hall, WIU, Macomb, IL 61455. Illinois residents, call to inquire about special prices.

Magic Tales Bring Cultural Awareness to Classroom

Davidson's **Magic Tales** Windows/ Macintosh CD-ROM software collection features **Baba Yaga and the Magic Geese**, a Russian folk tale, **The Little Samurai**, a Japanese folk tale, and **Imo and the King**, an African folk tale (reviewed elsewhere on this page). Each tale contains 26 minutes of cinema quality animation, an array of original songs, a colorful book version of the tale, and hundreds of interactive elements to click and explore. True to folk tale form, each of the Magic Tales relates a moral or lesson: keeping promises and acting responsibly are important (**Baba Yaga and the Magic Geese**), laughter is a mighty weapon, (**The Little Samurai**), and kind acts are rewarded (**Imo and the King**).

The **Magic Tales** collection is available for $78.95 from Educational Resources. Call 800/624-2926 or 708/ 888-8300.

Touch Screen in Two Sizes for Mac, IBM

Magic Touch by KEYTEC is an affordable touch sensitive screen that is available for either Macintosh or IBM (and compatibles) running under Windows 3.X or Windows 95. Each version comes in two sizes: one size fits a 13" to 15" monitor ($250) and the other fits a 16" and 17" monitor ($365).

Protected by a scratch-resistant coating for durability, Magic Touch is easily mounted on the monitor. It emulates mouse functions, such as pulling down menus, double clicking, dragging, and moving the cursor. A soft-tip pen is included.

One source for Magic Touch is Laureate Learning Systems in Winooski, VT. Call the company at 800/562-6801.

Macomb Projects Offers Variety of Technology Training Workshops

GENERAL COMPUTER TRAINING

ACTT Training (Module 1: Computer Training): Training provides an overview of the ACTT model and gives participants who are beginning computer users hands-on experiences setting up the computer and attaching a variety of peripheral devices. Appropriate early childhood software is demonstrated; opportunities for software evaluation are given, as are troubleshooting tips and an array of technology resources.

Getting to Know your Computer: Hands-on training allows novice computer users opportunities to become familiar with computer set-up and operation.

PERIPHERALS

Adaptive Peripherals for the Macintosh: Computer applications for children with severe or multiple disabilities are discussed and demonstrated. Various peripherals and adaptive devices are demonstrated.

ACTT Training (Module 5: Switch Construction and Applications): Topics for this hands-on workshop include electronics terminology, switch construction, switch selection, placement and positioning techniques, switch use with battery-operated toys, switch use with the computer.

An Apple for Any Teacher: Training focuses on peripheral devices (installing, operating, troubleshooting) for either Apple II or Macintosh computers.

Connect Young Children with Ke:nx: Ke:nx is introduced and demonstrated. Participants learn to create and print their own setups for switch and touch tablet use.

Switch Construction and Application: Training focuses on constructing a battery interrupter and tread switch. Various switches are demonstrated. Discussion centers on curriculum applications.

ASSESSMENT TRAINING

Assessing a Child with Hearing Impairment: Training focuses on assessment techniques and adaptive materials needed for children with hearing impairments. Technology use for visual learners is discussed and suggestions for curriculum activities are given.

Assessing a Child with Visual Impairment: Training focuses on assessment techniques and adaptive materials needed for children with visual impairments. Technology use for auditory learners is discussed and suggestions for curriculum activities are given.

Child Evaluation and Follow-up (Available only to sites adopting the Technology Team Assessment Process model): Training provides the adopting site's assessment team with technology assessment experiences. Team members participate in a child's technology assessment following TTAP's procedures from beginning through follow-up.

Child Positioning and Equipment Placement: Creating the Optimum Environment for Technology: Techniques for evaluating child positioning and equipment placement during a technology assessment are addressed. Adaptive materials are discussed and demonstrated.

Customizing Overlays to Meet Individual Needs: Training provides information and hands-on experience in making overlays for a variety of direct select input methods and includes a discussion of factors to consider when using overlays during a technology assessment.

Determining A Suitable Input Method: Assessment factors to determine suitable input based on a child's most reliable movement are addressed. Various devices and software will be demonstrated.

Levels of Switch Progression: Six levels of switch use are defined and demonstrated using selected software. Participants gain hands-on experience with many different switches and simple to complex programs for scanning preparation.

Making Recommendations from Observational Data: The workshop focuses on using two forms developed by Project TTAP as the basis for technology recommendations (**Individual Trial Form** and **TECH ACCESS**).

Overview of Technology Applications for Young Children: Training provides an overview of the philosophy, tool use, activities, adaptations, and equipment used during a technology assessment.

continued on page 22

Macomb Projects Training continued from page 21

Overview of Technology Team Assessment Process: Training focuses on the TTAP assessment process, provides video case studies, examines pre- and post-assessment procedures and appropriate assessment agenda.

ADAPTATIONS FOR CHILDREN WITH DISABILITIES

ACTT Training (Module 2: Birth to Three Component): Training provides information and hands-on experiences in designing technology interventions for children with disabilities, ages 0 - 3. Technology applications, family involvement, software selection, and peripheral selection are among the topics discussed and demonstrated.

ACTT Training (Module 3: Three to Five Component): Training provides information and hands-on experiences in designing technology interventions for children with disabilities, ages 3 - 5. Technology applications, classroom environmental design, emergent literacy applications, expressive arts applications, curriculum integration, family involvement, software selection, and peripheral selection are among the topics discussed and demonstrated.

ACTT Training (Module 4: Adaptations for Severe Disabilities): Topics include assessment procedures, switch progression, curriculum applications, customizing applications using Ke:nx, communication tools, technology and the IFSP/IEP, family involvement, and child evaluation.

Computers and Young Children with Disabilities: Discussion focuses on using the computer as a tool to develop and enhance a child's communication, problem solving, and social skills. Curriculum applications are demonstrated. Factors involved in designing the computer environment and evaluating software are discussed.

Technology and the Expressive Arts: Training focuses on importance of expressive arts for all children and ways technology can be used to provide opportunities for children with disabilities to participate in arts activities.

Technology and Emergent Literacy: Training focuses on using an interactive technology curriculum to enhance the emergent literacy skills of preschool children with mild to moderate disabilities. Levels of software interactivity are defined and demonstrated.

Using Technology as a Tool for Communication: Training focuses on using a computer to enhance the development of communication skills, developing curriculum activities to meet individual communication goals, and using software to make communication overlays. Various input devices and software programs are demonstrated.

Use of Logo and Robots in the Classroom: Workshop contents include discussion of Logo's potential benefits for a young child, demonstration of adaptations for children with disabilities, demonstrations of ACTT Instant Logo, and demonstrations of off-computer curriculum applications that introduce or reinforce Logo concepts.

FAMILIES

Family Involvement in the Computer Center: Ideas are presented for computer workshops to involve families at the awareness and assistance levels. Creating newsletters, banners, signs, labels, and calendars; adapting toys; making switches; and involving parents as classroom computer assistants are among ideas discussed.

FUNDING

Funding Ideas for Families and Educators: Information on a variety of funding sources is provided, as are suggestions for contacting national, state, and local organizations and foundations. Grant writing tips are shared. Hands-on experience in accessing electronic databases is given.

ADULT PRODUCTIVITY

ACTT Training (Module 7: Tool Use): Training examines the computer as a tool for adults. Topics covered include word processing, IEP generators, data management programs, integrated report generators, graphics programs, HyperStudio, multimedia, and electronic communication.

ClarisWorks: Hands-on training introduces participants to **ClarisWorks** and its many useful tools and functions.

Create Your Own Software: Training focuses on using **HyperStudio** to create software suitable for individual children's or classroom needs.

Writing Technology into a Child's IFSP/IEP: The workshop addresses the importance of incorporating technology into the IFSP/IEP and strategies for including technology into objectives for children with various disabilities.

These workshop and training topics were developed by Macomb Projects' Early Education Program for Children with Disabilities projects. For more information or to schedule a workshop, contact Linda Robinson at 309/298-1634 or fax 309/298-2305.

National Center to Improve Practice Hosts On-line Discussions about Technology and Students with Disabilities

Join with education professionals, trainers, technology coordinators, staff developers, university faculty, teachers, specialists, clinicians, and consumers throughout the country who share a common desire to improve the use of technology with students who have disabilities.

NCIPnet, the telecommunications network of the National Center to Improve Practice (NCIP), funded by the U.S. Department of Education, Office of Special Education Programs and housed at Education Development Center, Inc. in Newton, MA, enables you to share information and resources. Discussions range from reflective conversations about the implications of inclusion to requests for more information about particular software programs to implementation issues related to adaptive technology tools. NCIPnet also hosts special online events featuring leading experts in the field.

An NCIPnet account and NCIPnet software (available at no charge) allows users to log on to NCIPnet via the Internet. With a live Internet connection (not a dial-up service) you can telnet to NCIPnet by using the FirstClass software we will send you upon request. Or, users can dial into NCIPnet's 617 telephone exchange.

It is easy to get started. Just call or email NCIP for an application form. Once you have returned the form, NCIP sends you the NCIPnet software and you can be participating in the NCIPnet community in no time.

To request a form, call Shelly Clark, 617/969-7100, extension 2387, or send email to NCIP@edc.org.

Calendar of Conferences

February 15-16, 1996: Strategies for Building Supports for All, 1996 Illinois TASH Conference in Oak Brook, IL. Contact 708/584-0970.

February 15-17, 1996: Florida Assistive Technology Impact Conference in Orlando, FL. Contact Jeffrey Fitterman, 813/872-5281.

February 16-17, 1996: 3rd Annual Wisconsin Technology Access Conference in Milwaukee, WI. Contact Jan Baudo, 414/438-3491.

March 4-6, 1996: 13th Annual Midwest Education and Technology Conference in St. Louis, MO. Contact Educational Technology/RCET Division, 1460 Craig Road, St. Louis, MO 63146.

March 7-9, 1996: 26th Annual Mid-South Conference on Communicative Disorders in Memphis, TN. Contact 901/678-5800.

March 14-15, 1996: *ACTT VII Early Childhood and Technology Conference in Macomb, IL. Contact 309/298-1634.*

March 17-20, 1996: 13th International Conference on Technology and Education in New Orleans, LA. Call 817/534-1220 or fax 817/534-0096.

March 20-23, 1996: Technology & Persons with Disabilities in Los Angeles, CA. Contact Center on Disabilities, 818/885-2578.

March 28-30, 1996: 37th Annual Conference of the California Transcribers and Educators of the Visually Handicapped in San Diego, CA. Contact 916/445-1290.

March 31-April 2, 1996: 1996 Annual Interantional Technology Education Association (ITEA) Conference in Phoenix, AZ. Call 703/860-2100.

April 25-27, 1996: Northwest Council for Computer Education Conference '96 in Portland, OR. Contact NCCE at 1277 University of Oregon, Eugene, OR 97403.

April 29-May 3, 1996: The Changing Face of Developmental Disabilities: Challenges and Opportunities in Service Delivery, Policy, and Research in New York, NY. Contact 212/563-7474.

April 17-20, 1996: Children...The Heart of the Matter, 1996 Midwest AEYC Conference in Lincoln, NE. Contact Linda Meyers, Nebraska AEYC, Box 94987, Linclon, NE 68509-4987.

June 7-12, 1996: Exploring New Horizons...Pioneering the 21st Century, RESNA '96 Conference in Salt Lake City, UT. Contact RESNA, 703/524-6686.

June 11-13, 1996: National Educational Computing Conference in Minneapolis, MN. Contact NECC '96/ISTE, 1787 Agate Street, Eugene, OR 97403-1923.

June 17-22, 1996: World Conference on Educational Multimedia and Hypermedia in Boston, MA. Contact Association for the Advancement of Computing in Education; 804/973-3987.

July 10-13, 1996: Open Minds Open Doors, 1996 Autism Society of America National Conference in Milwaukee, WI. Contact 414/427-9345.

December 6-7, 1996: Tel•ED '96 in Tampa, FL, co-sponsored by ISTE and FACE. Call 541/346-3537.

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(501/523-2858)

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Orders from outside the U.S. must be paid for in U.S. funds drawn from U.S. banks.

wiu Western Illinois University
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VOLUME 11, NUMBER 2 Spring 1996

Building Access Bridges With Help From Technology

by Jennifer Bosworth

"Technology is a tool that can be used to invent, design, and construct 'access bridges' for users with disabilities," commented Lynne A. Rocklage, Ph. D. when she delivered the Keynote Presentation for the ACTT VII Conference in Macomb, Illinois, on March 14, 1996. Her presentation gave the audience objectives for providing children with special needs access to the world around them using assistive technology as a tool. Dr. Rocklage pointed out that there are three variations of assistive technology: low-end technology, mid-range technology, and high-end technology.

One question that Dr. Rocklage addressed was "How can we build an 'Access Bridge'?" The very first thing to do is to check the legal mandates which describe "access bridge" building. IDEA Section 101 (g) is the example that she cited. The second thing to do is get to know the user who needs the "access bridge." When getting to know the user ask the following questions: What does the user want to access? How is the user currently gaining access? What does the user want to be able to do? What does the teacher want the child to be able to do (a compromise may be needed)? What does the user like? What does the user dislike? Where does the user need access? How old is the user? What are the user's cognitive levels? What are the user's communication levels? What are the user's sensory abilities? What are the user's manifest and emerging skill levels?

Dr. Lynne Rocklage, Associate Professor of Special Education, in the Department of Special Education at Eastern Michigan University, Ypsilanti, Michigan, delivers the keynote address to ACTT VII participants.

After the teacher has researched the legal mandates and gotten to know the user, the next thing to do is to decide what type of technology to use—low-end technology, mid-range technology, or high-end technology. Dr. Rocklage defined low-end technology as low-cost or no-cost and "under ten dollars." Uniquely designed and constructed for the user, low-end technology is constructed from "good junk" and "great stuff." It is designed to be a temporary form of access that can change and develop with the child.

Mid-range technology is usually electronically or battery driven. It is not always portable and can draw a lot of attention to the user. It frequently requires a computer. Often it is a unique peripheral but usually it can be modified somewhat to meet the user's needs.

High-end technology is usually viewed as a "permanent" form of access. It is usually portable but also may have stationary components. Generally, high-end technology is a quite powerful device with many capabilities. It can be customized to meet the user's needs but the user probably won't be able to use it for twelve years.

Dr. Rocklage suggests that when the "access bridge" is being built, that its "foundation" be constructed using low-end technology devices. Then, add the "structure" using mid-range technology devices and applications. Finally, the "superstructure" is finished with high-end technology devices and applications. She adds that during and after construction, check frequently with the user to make sure the "bridge" really does provide access. Always be willing to change the "blueprints" to meet the user's changing needs.

In conclusion Dr. Rocklage stated, "Remember that every user has different access needs; what works for one may not work for others. A different bridge may need to be built for each user who wants access."

Technology Training Dates

Macomb Projects' Technology Team Assessment Process (TTAP) training is scheduled for July 31-August 2 and September 25-27. TTAP's team-based procedures are designed to determine appropriate assistive technology applications for children with moderate to severe disabilities.

Macomb Projects is also sponsoring ACTT training from June 10-14. A variety of topics from beginning computer use to curriculum integration to software selection and evaluation will be covered.

Contact Linda Robinson for more information about any of the summer or fall sessions. 309/298-1634 or fax 309/298-2305.

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From The Editors. . .

by Linda Robinson

Every March for the past seven years, Macomb Projects' staff have felt that the ACTT Conference was bigger and better than the year before. This year was no exception. We had the pleasure of meeting new people, catching up with old acquaintances, learning new information, and sharing a variety of expertise. For those of you who did attend ACTT VII, you know what a joy it was to hear Lynne Rocklage talk and demonstrate her "stuff." Everyone went home ready to "clean out closets" and "gather junk." Not only has she thought of ways to use common objects for assistive technology, but she told great stories about children who have put the items to good use.

In her keynote presentation Lynne brought home one important tip which many of us in early childhood overlook. That is *to keep the consumer's wants and needs in mind at all times*. We often forget that a young child with severe disabilities is a consumer and needs to be asked his preferences. It is much easier for adults to choose for the child rather than taking time or finding a way to ask that child what he wants. Lynne's point is that unless the consumer has a say in the adaptation or device, it will not be successful. This concept even applies for very young children. We should constantly monitor their abilities and reactions to using toys, switches, and any other adaptive materials. It seems like logical advice, but we tend to get caught up in our hectic schedules and forget to take time to truly evaluate the effectiveness of a device or method on a daily basis.

Besides the wonderful keynote speech and Lynne's demonstration of practical adaptations, we had a variety of presentations by members of our own staff. Although we all have offices under one roof, the Macomb Project staff is quite diverse in talents and expertise. Our Projects have the distinction of using technology for very specific applications, such as art and literacy. The Expressive Arts staff have shared some of their presentation content here in the articles on making music and exploring spiders and ducks. They have many creative ideas for off-computer activities to accompany software. The Interactive Technology Literacy Curriculum Project staff have provided procedures for activities they have used with local preschoolers. The curriculum activity, "Villa Villakulla," is an example of how a software program, such as *Pippi*, can be integrated into literacy activities. The sign-up sheet is another idea for promoting literacy in the classroom.The children love to sign up for a turn at the computer.

If you have specific questions on expressive arts or literacy, feel free to contact the authors at our Project office address. Many staff members develop curriculum activities regularly and would be glad to share ideas with you.

Besides the staff members who are developing technology models for arts and literacy, Macomb Projects is involved in researching the effects of technology on literacy skills, and the effect of specific technology models on children, families and staff in a comprehensive system. For more information on the latter research project, check out the article on ECCTS in this issue. Our staff are also involved in providing training to families and staff in Head Start classrooms, preschools, and early intervention programs across the country. Let us know if there is information or training you need this summer or next fall. We serve as a resource in any area related to early childhood and technology.

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Makin' Music for Everyone!!

by Amy Betz and Judy Potter

Note: This is second of a three part series about low-tech adaptive devices for the expressive arts.

Music can be found all around us—in the kitchen, from playing spoons, to banging pots and pans; with our bodies, clapping, tapping, humming, or singing. There are many ways to adapt musical instruments or to create them so anyone can produce music. One of the simplest ways to adapt instruments is to add larger handles to them using knobs from the hardware department of a discount store. The knobs can be painted or color coded to help children identify pairs or sets of instruments. Knobs can be put on wood blocks, the steel striker for a triangle, mallets for drums and xylophones, cymbals, or other instruments. Some catalogs do advertise rhythm instruments with large knobs—these sets can cost as much as $40 more than those with regular sized knobs! If you are able to purchase the knobs yourself, there could be a considerable savings to your program.

There are a variety of ways to adapt shaker toys or maracas in the classroom. A plastic milk container can be partially filled with beans, rice, or pasta. The lid can be glued to prevent spills. Staple two paper plates, eating surfaces together, to form a pocket. Leave enough space open to put in beans or rice. Staple the opening. Add a large craft stick for those children who need larger grips. The stick can also be covered with foam to provide a larger grip. Another alternative maraca is to use the plastic lemon or limes from the produce section of the grocery store. Beans, nuts, or bolts can be placed in the fruit and a dowel rod glued into the opening. Again, foam can be placed over the dowel for a better grip.

Bells can be sewn onto mittens or attached to elastic. Be sure that the bells are large enough to avoid choking incidents. The elastic instruments can go around the wrists or ankles and the mittens can be placed on the hands. These instruments are designed for children who do not have much grip strength in their hands.

Bottle caps and juice lids can be used to make castanets, finger cymbals, and other percussion instruments. Fold a piece of thick cardboard in half, glue a lid at each end of the cardboard, making certain that they meet. To play, press the folded end together. Make a tambourine from an embroidery hoop. Hammer nail holes through the bottle caps and knot the yarn after each cap. Tie or tape the yarn around the hoop for security.

Stringed instruments can be made using nail boards, Geo boards, or pegboards. Different sized rubber bands are placed around the nails or pegs and stretch to different lengths. Children can listen to the various sounds made as they strum the rubber bands.

Look around your classroom and home to find other musical instruments. Coffee cans of different sizes can become a drum set; PVC or metal pipes cut in different lengths can make xylophones; metal pipes can be used to make a wind chime to provide background music. *The Backyard,* a software program, has windchimes made out of silverware, pipes, shells, or bones. Be creative, let your imagination run wild!

The Illinois Institute of Technology in Chicago has become affiliated with Tetra, an organization made up of technicians and engineers who volunteer to design assistive technology devices for people who have disabilities. For more information, call Amy at 312/567-5744.

Revised Software Guide Features 120 Macintosh Reviews

Macomb Projects' *Good Leads for Software Needs: Suggested Macintosh Software for Young Children* 1996 revision is ready to be sent to YOUR classroom. This book is divided into three sections; the first contains reviews of 120 Macintosh software programs which can be used in early childhood settings. The second section has reviews of nine Macintosh software programs for adult productivity. Each review includes the publisher's name, system requirements, price, and short description of the software. The third sections contains resources.

Good Leads for Software Needs: Suggested Macintosh Software for Young Children sells for $20.00. For ordering information, call Macomb Projects at 309/298-1634.

Rodeo Excitement, Fun Prevails in Software for 4 - 12 Year Olds

The Rodeo, age appropriate software for preschoolers to preteens, is available from SoftTouch/kidTECH. Users laugh, learn, and sing as they attend a rodeo with one or more of the software's six characters. Songs tell the story.

Age appropriate and multicultural graphics with surprising animations provide learning and laughter. The "Let's Play" option offers cause/effect, scanning or selection. Activities are available for teaching numbers or visual matching. A song selection activity is available for users with visual impairments.

The Rodeo requires a Macintosh LC III or faster, 13" or larger color monitor, and 4 - 8 Megs RAM. The program sells for $95. Call SoftTouch/kidTECH at 805/396-8676.

Talking Keyboard Provides Computer Access for Children with Disabilities

Discover:Board™, new from Don Johnston, is a flexible keyboard that works for students with disabilities. It has bright colors and pictures for young users, yet can be used by older students and adults as well. The keyboard not only does everything a standard keyboard can do, it also TALKS! It includes everything for computer access.

Discover:Board is perfect for the mainstreamed classroom. It lets students with physical, cognitive, and visual disabilities work, play, and communicate with peers. Discover:Board draws on Ke:nx technology for its access, speech, and learning capabilities. It has keys for entering text, talking phrases for multisensory learning, and moving the mouse.

Here's what you get with Discover:Board:

- a large, colorful keyboard
- a starter set of overlays for popular programs
- dozens of ready-made files that match other programs
- text entry, number pad, mouse, and training files
- talking files
- over 500 graphics
- a design program so you can customize files

Requirements: Macintosh with ADB port, System 7, 3 MB free space on hard drive, 2MB RAM for most setups, additional .5 MB for minimum-quality speech, up to 2 MB for higher-quality speech.

Discover:Board is available from Don Johnston, Inc. for $499. Call 800/999-4660 or fax 847-526-4177.

NARIC Creates, Distributes Topical Resource Guides

The National Information Rehabilitation Center (NARIC) will be focusing its efforts on creating topical resource guides. Existing guides include spinal cord injury (free), head injury (free), stroke (free), and the Americans with Disabilities Act ($5).

To obtain these guides, call 800/346-2742, ext. 1 (voice) or 301/495-5626 (TT). The guides are also available from NARIC's home page on the World Wide Web: http://www.naric.com/naric

Monitoring System Tracks Wandering Children

Care Electronics, Inc. has developed the WanderCARE 100T Monitoring Device which can monitor a child's presence around the home. If the child wanders away, an internal siren sounds. The system can provide tracking and location capabilities up to one mile. The company also manufactures Patient Safety Alarms that are small, portable, and inexpensive. The products are all FDA approved.

For more information contact the company at 303/444-CARE or fax to 303/447-3502. The mailing address is 5741 Arapahoe Ave., Unit 2A, Boulder, CO 80303.

Book Features Great Ideas for Make-It-Yourself Low-End Technology

Good Junk + Creativity = Great Low-End Technology! by Lynne A. Rocklage, Ph.D., Lea Ann Peschong, M.S., SLP-CCC, Amy L. Gillett, Ph.D., and Barbara J. Delohery, M.Ed. is a new book featuring ideas, suggestions, and "blueprints" for designing and creating low-end technology devices and strategies for persons with disabilities. The book is written in "user-friendly" terms, with easy to follow instructions, permitting everyone to be a low-end technology designer and creator.

Good Junk + Creativity = Great Low-End Technology! contains 108 pages of ideas and suggestions, including over 160 photographs of devices, and 40 line drawings and diagrams. The book is divided into five sections:

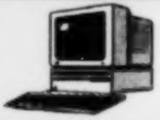
1) Introduction
2) Single Switching Devices
3) Communication, Interaction, and Choice Making
4) General Low-End Technology Ideas Using Off-the-Shelf Materials and Toys
5) Resources

The book costs $25.00 plus $5.00 shipping and handling. To obtain a copy, send your $30.00 check, payable to "Good Junk" to Good Junk!, c/o Dr. Lynne Rocklage, P.O. Box 971022, Ypsilanti, MI 48197.

ACTT VII Prize Winner Announced

Congratulations to Katrina Hamilton from Canton, IL, the winner of the ACTT VII evaluation drawing! Katrina's evaluation was selected randomly from all the evaluations returned by conference participants. She selected **ArtSpace** as her prize.

Katrina said "[ACTT VII] advanced my skills and awareness level of what is available and appropriate." She also said that the things she liked most about the conference were the "small numbers in sessions" and the "very knowledgeable presenters."



Curriculum ACTTivities

A Villa Villakulla Day

by Carol Schneider and Linda Robinson

Stories of *Pippi Longstocking* by Astrid Lindgren can provide young children an opportunity for fun creative play within any classroom. Pippi is a young girl who wears her bright red hair in two stiff braids. She can be very mischievous. In the CD-ROM **Pippi**, there are three stories, one of which features Pippi and her pets (Mister Nilsson, a monkey and a horse) make new friends with the neighbor children, Tommy and Annika. The other stories tell how Pippi makes pancakes for her friends and how two tramps attempt to steal Pippi's gold coins. Children can have fun making pancakes in Villa Villakulla, painting gold coins, or having Mister Nilsson join them for snack time.

Materials:
Macintosh Computer with color monitor and CD-ROM drive
Pippi (Ahead Media AB) - Don Johnston Developmental, Inc.
Optional: Switch interface and switch, external speaker

Ahead of time:
Create a Villa Villakulla Village in the classroom. Enclose desks, and/or tables with cardboard boxes to form a circle. Create a banner which reads, "Villa Villakulla" or have the children color a sign with the name "Villa Villakulla Village." Designate part of the cardboard boxes as an area on which the children can color or draw at will. On a desk top, create a simple stove top. Cover the desk with paper and draw stove burners with a timer and controls. Place cooking utensils with plastic eggs on the stove.

Boot the program **Pippi** on the computer.

Activity:
For story time, gather the children to the computer center. Select the Pippi story about pancakes from the attic. Encourage the children to assist turning the pages of the story (either with a switch or mouse). During the story, ask questions such as:
What happens to his hair?
Can you see what Pippi did with the spoon?
Watch Mr. Nilsson. What did he do?

After the story allow the children to freely explore the Pippi program during their computer time.

Art Center:
Materials:
White paper
Cardboard circles approximately 6" in diameter - 2 for each child
Color markers

On each cardboard circle print the child's name. Cut a circle approximately 12" round out of white paper. Cut four slots in the circle to form a bowl, as shown on the following page.

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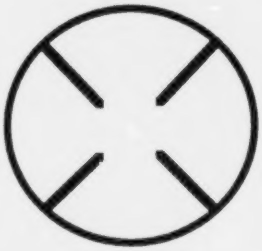
***Villa* continued from page 5**



At the art center, have the children color their pancakes and bowls. Place butter and syrup on the table. Ask the children what color syrup and butter is. See if they can select a marker the same color as syrup or butter to color their pancakes. After the children have colored their bowls, staple the paper together to form a bowl shape.

Snack Time:
Encourage the children to help make the pancake batter. If time permits, each child can help stir the batter. Cook the pancakes in an electric frying pan. Explain to the children how to cook pancakes. Look for the bubbles on the top of the pancakes. (If you are daring, try flipping the pancakes when turning them.) When the pancakes are done, have children hold their plates with two hands. With a spatula, flip a pancake to each child's plate. (Expect to lose a few pancakes during this snack time.)

Music Time:
During music time sing the **Pancake Rap Song** with the children.

Pancake Rap Song

by Jean Davenport

Let's make pancakes
Put in the flour
Pour in the milk
(Hope it's not sour!)
Careful with the egg
Don't let it roll
Now crack it, crack it,
Crack it on the bowl.

Get a big spoon
And stir till it's smooth
Stir it, stir it
Stir it til it's smooth

Pour some in the fry pan
Cook it till it bubbles
Then you gotta flip it
Or you've got trouble!
Cook it on the other side
Then flip it on your plate
Put on butter and syrup
I just can't wait!

Pancakes, pancakes
Get'em while they're hot
Fill up my plate
Cause I like 'em a lot!

Gross Motor Activity:
Game One: Tell the children, "Let's get our bowls and pancakes!" Ask the children to stand in a designated area of the classroom. Collect all of the cardboard pancakes from the children. With children standing in a line and holding their plates with two hands, take a spatula and randomly flips the cardboard pancakes in the air. Encourage the children, "See if you can catch a pancake!" After all of the pancakes are flipped have the children form a circle. Let the children look to see whose pancake they caught. Don't tell them, see if they can guess. Hold up a pancake and ask, "Who does this belong to?" After a child responds correctly, give the pancake to the owner. When a child answers correctly, respond,"Good reading." Continue doing this activity until all the children have their own pancakes. Then designate a child to be the "Flipper" of pancakes. Children might find this hard to do. Set boundaries before the game. Encourage children to flip one pancake at a time.

Game Two: Collect the children's pancakes. Randomly place the pancakes on the floor. Then ask the children to "Find the pancakes with your name on them." After the children have found two pancakes, gather everyone together to see if the children have correctly selected their own pancakes.

Project ECCTS: Putting It All Together

by Robert Rippey, PhD.

Although many previous Macomb Projects have focused specifically on individual aspects of technology, software, transition, and training, Project ECCTS (Early Childhood Comprehensive Technology System)* is putting it all together. This research-demonstration study will look at most of the factors which are necessary to make a good program really sing.

Macomb Projects (MP) is working closely with the Just Kids (JK) Early Childhood Learning Center at Middle Island, Long Island, New York. JK is a large school which has been operating for over 18 years at three different sites. The site where we are working provides comprehensive services including day care, medical, audiological, psychological, OT, PT, and respite services in an integrated setting.

ECCTS is studying the relationships among ALL of the components of an early childhood education system, not just individual classrooms. The four primary components of this research and demonstration study are as follows. First, we want to explore the relationships among university staff, on-site staff, and teachers. We want to find out what is necessary to help teachers adapt to and fully use computers and relevant software with 3-5 year old children with disabilities. What kinds of support do they need? How do they support each other.

The second component of the research is to look at the changing relationships between students and teachers when computers are integrated into the curriculum. How does the classroom climate change when computers enter? How do student-teacher relations change? How does technology help students accomplish their developmental tasks in an integrated setting?

The third component is concerned with what happens to family life when computers are introduced into the school and when parents are encouraged to collaborate with the school program. What kinds of training would parents like and accept? How do siblings contend with rivalry over use of the computer? Finally, the fourth component will attempt to unravel the relationships among local, state, and national early childhood education policies. How do such policies influence the ability of early childhood high tech education programs to survive the vicissitudes of legislation in an era of retrenchment?

You might think that this is a big undertaking and you would be right. However, we have two decided advantages. First, Patti Hutinger had already established a relationship with Amy Toole, director of assistive technology, at the Just Kids Early Childhood Learning Center in New York. This large school has, for the past eighteen years, operated a successful, for profit comprehensive program of early childhood education. They already do all the right things for their children. In addition, they have been heavily involved in technology since their inception.

Our second advantage was that Macomb Projects already knew what and how to train teachers in the use of cutting edge technology. Only a year ago, Just Kids speech pathologists and occupational therapists were using Apple IIe's, primarily for reinforcement. Macomb Projects brought in Macintosh Power PC's, software like *HyperStudio*, *KidDesk*, and *Thinking Things*, and training programs which showed Just Kids teachers how to match software to pupil needs. Teachers have also been trained to use computers to

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Putt-Putt Returns to Save Zoo

by Letha Clark

Having watched children rise to the challenges of *Putt-Putt Joins the Parade* and *Putt-Putt Goes To the Moon*, there is the assurance that *Putt-Putt Saves the Zoo* will also be popular in early childhood programs.

The Cartown Zoo is scheduled to open TODAY, but it can't. You see, six baby animals are missing. How horrible!! Their parents can't find them and neither can the zoo keeper. Putt-Putt, the fearless, comes to the rescue and volunteers to find the poor babies. Of course, he must have an assortment of items to aid his rescue attempt. These he picks up all over the Cartown Zoo and keeps in his car. In his wisdom, Putt-Putt knows that a shovel or a cup of hot chocolate might be just what is required. As Putt-Putt journeys through the humid jungle, the hot, dry grasslands, and the cold, frozen Arctic areas, he finds the lost babies and rescues them, one and all.

What fun, to watch children discover the paths to the missing babies and "help" Putt-Putt solve the difficult problems of a rescue attempt.

Putt-Putt Saves the Zoo is CD-ROM software published by Humongous Entertainment. The program is available from Edutainment (800-338-3844) $34.95 or Educational Resources (800-624-2926) $36.95.

ECCTS continued from page 7

help with daily teacher tasks and to prepare individualized instructional materials.

According to an early transactional evaluation, the teachers at Just Kids were ready to go, they were committed, and they had positive experiences on which to build their new knowledge. Macomb Projects was eager to work with a capable and highly motivated group of teachers in an environment dedicated to offering the best possible program for all children including those with disabilities.

You might reasonably ask, “With all these advantages, why have a research project anyway?” Some people might say, “Give any rural school in downstate Illinois these resources, and they could not help but succeed.” Or, others might say, “ If you study a school with a record of successful experience and know how, and a community of rich and sophisticated parents, how can this information help a poor rural community?”

Questions like this suggest that some research might be a good idea. We all know that not many problems are solved by throwing money at them. If a school district wants to tinker with computers, they do so at their risk. Also, not all people on Long Island are rich, or even sophisticated for that matter. The research we are doing should find useful answers to ubiquitous questions: What does an excellent program look like? What does it take to get it going? How can you evaluate and decide where your program needs praise and where it needs fixing? Finally, how can you run a good program within the existing complex of laws and regulations without requiring both a constitutional lawyer and a brain transplant?

Progress to Date

We are far from writing down our findings. That will begin two years from now. However, we have noticed much during this first six months. Our early and premature findings are related to questions like:

1) What do children like to do-almost everywhere, at least in Macomb and on Long Island?

One thing which is very clear is that children love to use computers. If allowed, some entire classes would use them constantly. One class had to put up a sign saying, “It is not Joey’s turn to use the computer now.” They like to help each other. If a student OR a teacher has trouble at any point, there are always several children willing AND ABLE to help out.

They like to explore. They love programs which present them with puzzles they need to solve. Their exploration includes exploration of a variety of consequences of unanticipated moves on the keyboard or touch screen. One little girl became unduly curious about the functions of the wires in the back of the computer and these had to be placed out of reach.

> ***One thing which is very clear is that children love to use computers...they like to explore...to talk to computers...to dance to a program's catchy tune...***

Children like to talk to computers. They may talk to the computer itself or they may carry on conversations with characters on the screen. They may instruct these characters verbally as to where to go or what to do before resorting to the all powerful mouse-master. They may talk to the computer when they are unwilling to talk to teachers or classmates.

They love to dance to a program's catchy tune. They will invite their friends to join them. They will compose tunes on *Toony Loon* or *OrangaTanga* and then dance to them.

Finally, we observe a lot of other activities of our children which are not related to the computer. They include 1) constructing, 2) manipulating, and 3) expressing feelings in behavior, and sometimes in words. They like to play hard, attract adults' attention, and have snack time.

2) What do most teachers like, almost anywhere?

New ideas and methods. Help with their unique problems, not someone else's. Evidence that their efforts are not in vain.

3) Do computers isolate students?

No.

4) What seem to be good attitudes for teachers to have about computers?

Teachers should have 1) positive attitudes toward learning to use computers, 2) an optimism about their ability to use computers, and 3) a willingness to share their frustrations openly so that technology aides will have an accurate target.

5) What are some important elements needed to get a good program started?

A climate supportive of change, clear goals, and patience to endure startup sickness. Training and technical support are essential during the early stages. At least a few people with vision and a lot of people willing to work hard together , to learn, and to evaluate the effectiveness of their work with children will help a lot. Finally, we need leaders who are committed to communication and involvement of everyone dedicated to the task. We need leaders who can make tough decisions, but

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Supporting Classroom Diversity

A Witch in the Classroom?

by Letha Clark

ACTTive Technology provides this column as a regular feature for helping teachers use technology to expand their curricula to include cultural awareness and diversity.

Baba Yaga's Geese is a Russian folktale that most of us recognize. We may not be able to retell the tale, but the title at least sounds familiar. The name Baba Yaga doesn't sound mean enough to belong to a witch, but a witch she is, and her version of soup isn't Stone Soup. It's something more vile and nasty than we would care to taste.

Baba Yaga and the Magic Geese is a software program on CD-ROM. This tale of Baba Yaga and her geese puts a different spin on the print version, but the telling is so close it is easy to recognize. The names of the characters have been changed, probably to protect the innocent, and the grandparents have been transformed into the parents. Aside from those "minor" changes, the story remains the same. A little boy is captured by Baba Yaga's geese and his sister puts in a frantic day finding and rescuing her brother. With the help of a stream, an apple tree, and an oven, the sister and brother outsmart Baba Yaga and her little flock of geese. As each new page of this interactive book appears on the screen, the words are highlighted and read. Hidden "hot spots" offer unpredictable actions to enhance the story. The child in control of the mouse or TouchWindow® can explore each page in depth and have the page reread as often as desired before continuing to the next page or "backing-up" to the previous page.

By sharing the wisdom of a folktale we do many things. Certainly we offer children the opportunity to learn more about another culture. In addition, we all learn more about our own cultures, and more about ourselves.

One of Davidson's *Magic Tales, Baba Yaga and the Magic Geese* is available on CD-ROM as part of a set of three individual titles ($78.95) or as a single CD-ROM ($36.95) from Educational Resources (800/624-2926). *Baba Yaga and the Magic Geese* is also available in a single title only ($36.95) from Edutainment (800/338-3844).

Classic Golden Books Get New Look, Go Interactive

The *Stories to Grow On* series contains five classic Golden Books. Designed for young children ages 4 - 8, these CD-ROM storybooks for Macintosh and Windows help pre-readers develop literacy skills and older children improve their reading and writing skills. *Stories to Grow On* offers five interactive learning activities containing exciting audio, colorful graphics, and lively animation.

The five titles in the series are:

- *There are Tyrannosaurus Trying on Pants in My Bedroom*
- *The Little Red Hen*
- *The Three Billy Goats Gruff*
- *The Three Little Pigs*
- *What Was That!*

Each title in the series is $49.95 from Hartley, 800/247-1380. If you order before May 1, the price is $34.95.

Looking for a source of computers at low or no cost? Try calling either

Computer Reclamation
(301/495-0280)
or
The Computer Recycling Project
(501/523-2858)

Psst....Wanna Hear Some Great *Kid Pix 2* Hints?

Are the young children in your classroom having trouble clicking on the small color palette in *Kid Pix 2*? If so, make the colors bigger by going into the Control Panel and setting the monitor to "16 colors."

If you have monitor larger than 13", press the spacebar when booting *Kid Pix 2* and the drawing screen will enlarge. If you need to increase your application memory as a result, highlight the Kid Pix 2 icon and choose "Get Info" from the File Menu. Increase the Current Size or Preferred Size by at least 500K.

Interactive Software - Features Goldilocks or Popular Nursery Rhymes

Two storybook software programs available from Edutainment target young children ages 2 - 8. *Goldilocks Gamebook* has over 30 beautifully illustrated interactive screens. Children can navigate through the story on their own or it can be read to them. The program also contains 17 separate games including one which helps Baby Bear rebuild his chair or Momma Bear clean up the porridge bowls. The progam costs $17.95 and is available in Window 95, Windows, Macintosh, and CD-ROM versions.

Multimedia Nursery Rhymes contains over 40 interactive nursery rhymes. Animals move and talk. Children can participate in the action of the nursery rhymes. The progam costs $16.95 and is available in Window 95, Windows, Macintosh, and CD-ROM versions.

These and other early learning software are available from Edutainment. To order a catalog, write the company at P.O. Box 21330, Boulder, CO 80308 or call 800/338-3844.

Sign-Up Sheet for the Computer Center

A great way to manage computer time and help children increase literacy skills is to provide a sign-up sheet next to the computer. Children know when it is their turn at the computer and they have a reason to practice writing their names. With some assistance from the teacher, children can easily sign their names on a sign-up sheet for their computer time.

Materials:

White construction paper
School photos of the children
A photograph of the computer center
Optional: A laminator
Black magic marker
Masking tape
Pencils or markers

Ahead of time:

For each classroom, print each child's name on a blank piece of paper. On another sheet, create a sign-up sheet as shown below. Draw the three columns and numbers with a black marker.

Number	Photo	"Signature"
1		
2		
3		
4		
5		
6		

Laminate the sheet for durability and post it near the computer center. On top of this sheet, display a sign with the classroom picture that says, "Computer Center." Take a small amount of masking tape and make a enclosed circle of tape. Tape this to the backs of the children's photographs. Near the sign-up sheet, tape these classroom photos of the children on a non porous surface (like a metal book shelf). These photos then can easily be attached to the sign-up sheet by the children.

Activity:

Before circle time ends, tell the children they need to sign-up for the computer time. When the child approaches the teacher/facilitator to sign-up, have the name listing (a sheet of paper with each child's name printed in a vertical listing), a dated blank sheet of paper, and a marker ready. From the name listing, show the child's name to the child. Encourage the child to write their name on the blank paper. At first the child's name will not be recognizable. After all the children in the classroom have signed this sheet, tape it to the sign-up sheet. Then have the children place his or her photo by their signature. During class ask the children, " Whose turn is it on the computer?" If no one responds, have them look at the sign-up sheet. Or you may be surprised, because children will be looking at the sign-up sheet and telling you who's turn it is. While other children are at other centers, you may want to time children at the computer center from 5 to 10 minutes. If the class is too large, have more than one child at the computer center. Keep a good sample of these sign-up sheets. You'll will be happily surprised the improvement of the children's "signatures" at the end of the year .

ECCTS continued from page 8

whose decisions are also based on the best facts and counsel they can obtain.

So far, in our evaluation, we have not had many surprises. I don't know why there should be many surprises. We have been educating children for thousands of years and we have survived. I am not against looking for new knowledge in educational research, but I am dismayed when that quest for new knowledge diverts attention from making good use of what we already know. The uniqueness of ECCTS lies in the fact that we at least intend to DO, and I mean DO with a capital D, what we know is right. What does that mean? It means giving students a chance to explore with the computer. It means challenging them with thoughtful problems at an appropriate individual level. It means giving them a say about how they spend their time. It means helping them muddle through thoughtful questions to improve their problem solving skills.

One of the most rewarding aspects of working on the ECCTS project has been that there is no search for gimmicks and that each new step is based on secure previous steps. There is no royal road to geometry. There is no free lunch. There is no general solution to any educational problem. Flexible scheduling, magnet schools, problem based learning and the New Math have all had their day and have succeeded magnificently some places and failed miserably in others. After auspicious beginnings, some innovations have spread themselves too thinly over too broad a canvas.

The best part of the Early Childhood Comprehensive Technology System is that it starts where every educational transformation should start—with the individual student. That is one reason ECCTS includes the Technology Team Assessment Process (TTAP)—to find out what the student can do and plan his or her progress on the basis of that individual knowledge. That is how the computer can help. Each student in a class can have an individually prescribed program available through the program *Kid Desk*.

In the end, the ECCTS study will articulate a model so that an individual school can design and develop its own unique program for employing state of the art technology to assist all its children get the best possible start in school.

We do not want to give them a head start. We want to give them the BEST start. That is what I see in the crystal ball about the future of ECCTS.

*Project ECCTS is funded by the U.S. Department of Education's Technology, Educational Media, and Materials for Individuals with Disabilities Program, PR#H180U50039. ECCTS is based on components of Macomb Projects' Project ACTT (Activating Children Through Technology) and Project TTAP (Technology Team Assessment Process).

'Bubble Gum' Switch Easy, Inexpensive

Ron Mriscin, an ACTT VII Conference presenter, facilitated a switch workshop where one of the options was to make a switch using a plastic container which holds Bubble Tape brand gum.

The following materials are needed to make the switch:

- one round Bubble Tape Box (Wal-Mart has them for about 60¢ each)
- one 1/8" phono plug cable with stripped ends (Radio Shack #42-2434)
- one SPDT roller lever switch (Radio Shack #275-017)
- one 1" x 1 1/2" piece of 1/2" styrofoam
- two 1" x 1 1/2" pieces of 1/2" thick foam padding
- solder and soldering iron
- diagonal cutters
- hot glue sticks and hot glue gun
- 3" duct tape

Procedures

1) Remove the gum then use the diagonal wire cutters to cut the prongs and some of the rim from the gum box lid so it will not close all the way.
2) Burn a small hole in the rear side of the container with the soldering iron.
3) Run the stripped ends of the phono plug wire through the hole into the gum box.
4) Hot glue the styrofoam to the inside center of the bottom part of the gum box.
5) Solder one end of the stripped cable wire to the "C" (common) terminal on the roller lever switch.
6) Solder the other end of the cable to the "NO" (normally open) terminal on the roller lever switch.
7) Carefully push the switch into the stryofoam inside the gum box. Place a bead of hot glue around the switch, securing it to the styrofoam. Also fill cable hole with some hot glue to stablize the cable.
8) Hot glue the two pieces of foam on each side of the switch. The length of foam will determine the sensitivity of the switch.
9) Use duct tape to fasten the gum box lid closed, while adjusting it to the sensitivity desired by the user.

Cost of the components to make the Bubble Tape Box switch is under $6.00.

TECH Paks Available

Specialized Tech Paks are available from DREAMMS for Kids, publishers of DIRECTIONS: Technology in Special Education. Each Tech Pak includes copies of technology product catalogs, resources, vendor listings, and authorized reprints from various agencies such as ABLEDATA, NICHCY, UCP, and Council for Exceptional Children.

Packets topics include Funding, Software, Internet, Environmental Control, Augmentative Communication, Adaptive I/O, and IDEA.

Call DREAMMS for Kids at 813/781-7711.

What Can You Do With Spiders and Ducks?

by Judy Potter and Amy Betz

The Eensy, Weensy Spider, Mary Wore Her Red Dress, and *Five Little Ducks* are the three songs that have been animated in *Circletime Tales.* When off computer activities are used with the software, children's interest can be expanded. These activities can help children make connections between things that they experience and the interests that they have. They can reinforce the knowledge that children already have and make them curious to discover more information. These activities can provide social interaction, help children develop awareness of directional concepts such as up, down, out, over, coming, back; explore concepts of color discrimination, color names, one-to-one correspondence, sorting, sequencing and other pre-math skills. Children become active participants in their own learning.

Being introduced to new software is very exciting for children. Using software as the beginning of a thematic unit is a great way to extend excitement and curiosity. Imagine what children could create with pipe cleaners and paper tubing. They might design a water spout and a spider and reenact the spider falling down the water spout. A sticky board and a little yarn could turn into the spider's web. The slide on the playground could be a spout big enough for the children to be *washed out*. Put different colors and styles of clothing in the dramatic play area and children who are "all dressed up" might appear. They can also learn about the appropriateness of different types of clothing. Rubber ducks in the water table could lead to children learning about things that sink and things that float. The children might also imitate the mama duck saying, "Quack, Quack, Quack," calling her little ducklings back.

Getting started can take a little bit of planning. One important thing is to gather many different books about spiders, rain, colors, clothing, weather, ducks, numbers and water. There are also variations of these songs in book form. Familiarize yourself with the software by going through the steps just as a child in your classroom would go through the program. Make a book by capturing each screen (use Command/Shift/3 to take a snapshot of the picture on the screen). These images can also be laminated and, with Velcro attached, can become flannel board pieces. The screen captures can be duplicated and made into matching games. Laminating these pieces will help them to last longer. Display posters of real spiders, webs, ducks, rain, and weather. Talk about the need for different kinds of clothing. Sing other songs about colors, spiders, ducks, and weather. Use the following suggestions for activities with each song.

Activities to expand the *The Eensy, Weensy Spider:*

- Look for, observe, and investigate real spiders and webs.
- Invite someone from the local pet store to bring in a spider for a visit.
- Ask the children to think of questions they would like to ask before the visit.
- Draw spiders using different art media or graphics programs on the computer.
- Unroll, stretch, and glue cotton balls on dark construction paper to form a web.
- Create a spider web by blowing a puddle of tempera paint with a straw,
- Paint a spider web using string dipped in tempera paint or create spatter paint spiders.
- Do marble roll painting to create a spider web.
- Use pipe cleaner spiders and cardboard spouts as dramatic play props or to reenact the story.

Activities to use with *Mary Wore Her Red Dress*

- Visit retail stores such as a sporting good store with garments and wearing apparel for different needs.
- Compare/contrast the different types of clothing the children wear to school.
- Create a group collage of Mary, tearing paper the colors of what Mary wears.
- Make individual fabric collages using many different textures.
- Provide appropriate catalogs and magazines with pictures of people and clothing. Children can look at the pictures, cut them out, and make a collage.
- Draw a story of where Mary might be going *All Day Long*.
- Individualize the *Mary* song to the children in the group.
- Move to the beat and rhythm of the song as you sing.
- Move wearing various kinds of dress-up shoes.
- Involve the children in a shoe sorting game.

Activities to accompany *Five Little Ducks:*

- Feed the ducks at a local pond. Take video and photos of the experience and display for the children to view.
- Hatch ducklings in the classroom. Make sure a good home is available after hatching.
- Make a duck collage using feathers and construction paper on a sticky board.
- Create duck prints using tempera paint and duck shaped sponges and cookie cutters.
- Try feather painting.
- Reenact the story using puppets and other props.

Easy Steps for Capturing A Screen

Following a few easy steps you can capture your Macintosh screen and create all kinds of interesting curriculum activities based on children's software.

Take a "snapshot" to capture the image you see on your Macintosh screen by pressing Command/Shift/3. You will hear a "click" similar to the sound a camera makes when it takes a picture. The image is saved to your desktop as a graphic file. Each new file is numbered consecutively as a "Picture": Picture 1, Picture 2, Picture 3, and so on. The number of graphics you can capture depends on the amount of memory your computer has available.

Once captured the graphic can be opened from any program that handles graphics, such as ClarisWorks.

Image capturing provides you with great opportunities to make games, pictures, books, and other learning tools based on the software you use in the classroom.

Animal Antics Makes Learning Fun

Animal Antics from Jostens Home Learning, a CD-ROM for Macintosh or Windows for children ages 4 - 9, combines great color, animations, and sounds to provide educational and fun activities. *Animal Antics* broadens children's imaginations as they explore the world of animals in a colorful multimedia environment. Language skills and comprehension are enhanced as children are challenged to use information from the rhymes to solve riddles. Vocabulary is increased with colors, animal names, and farm words.

The suggested retail price for the program is $39.00. Order from Jostens Home Learning, 9920 Pacific Heights Blvd., Suite 100, San Diego, CA 92121; 800/801-0040; fax 619/622-7873.

ACTT VII Receives Great Door Prize Donations from Generous Companies

Many companies supported the ACTT VII Conference with generous prize donations. Macomb Projects thanks them for their wonderful support of our conference. Companies and their donations are listed below.

- **AbleNet:** True Friends
- **Academic Software:** Dino-Maze
- **Davidson:** Magic Tales Demo Disk
- **Great Wave Software:** Kids Time Deluxe
- **Humanities Software:** T-shirt
- **IntelliTools:** IntelliPics for the Macintosh
- **Laureate Learning Systems:** Exploring First Words
- **Marblesoft:** Early Learning Mix 'n Match
- **Mayer Johnson:** Playtime and Communication Displays for Engineered Preschool Environments, Book II
- **Milliken Publishing:** The Big Bug Alphabet Book (Mac) and The Big Bug Alphabet Book (IBM)
- **MindPlay:** Ace Detective
- **Nordic Software:** Preschool Parade and Turbo Math Facts
- **Poor Richard's Publishing:** Poor Richard's Learning Disabilities Resources (8), Growing Up with a Disability, Poor Richard's Collection, Confusing Words, Phonics Workout I, Symbols, and Ziggy Gets Out
- **Prentke Romich**: Camp Cookbook: A Planning Guide for AAC Camps
- **RJ Cooper & Associates:** 1 $89 software program, of choice, from the catalog
- **SimTech Publications:** One Switch Picasso, Scanning Picasso, Scan and Match #1, Scan and Match #2, Scan and Match #3, Scan and Match #4, Scan and Match #5, Scan and Match #6, Switch Puzzles, Switch Arcade, New Frog & Fly, and Cows!
- **Soft Touch/kidTECH:** Monkeys Jumping On the Bed
- **Sunburst:** A to Zap!
- **Tash, Inc.:** Switches: Undercover Buddy Buddy Button, Happy Buddy Button, Bulls Eye Buddy Button, Plaid Buddy Button, and Polka Dot Buddy Button
- **Technology for Language and Learning:** Directories: Special Education Public Domain Software (4) and Software: Dragon Modifications; Switches, Pictures, and Rocks; Single Switch Games I; Single Switch Games II; Word Scan; New Cause & Effect; My Computer Picture Book Keyboard; Switch Access Music; Switch Pix - Animals; Switches, Pictures, and Music; Single Switch Activity Program; Four Corners; Square Show; Matching Games; Motoring Games; Beginning Adaptive Software Applications; Scanning Game; Switch Game; Adapted Frog & Fly; White Lodge Early Learning; and All About Shapes
- **UCLA/LAUSD Microcomputer Project:** Scan It - Switch It, Wheels on the Bus, and Son of Seek and Find

The prize drawings held during the conference lunch hour on both days were fun for everyone. These prizes, combined with those offered by Macomb Projects, meant that every participant left the conference having won something!

Contact
"Gifts in Kind, America"
about
discounted computers
and free software
at
700 North Fairfax Street
Suite 300
Alexandria, VA 22314;
703/836-2121.

Macintosh Public Domain Software for Special Education

Technology for Language and Learning announces the availability of its new collection of quality Macintosh public domain/shareware for special education. MacPac I contains seven disks of over 70 programs which will add fun, learning and function to your Macintosh computer. Each disk contains a text file with highlights and instructions. Some of the main categories include:

- Early Learning: errorless, exploratory play, cause/effect, mouse training;
- Education: letters, numbers, shapes, colors, math, science, language;
- Game: action games of varying levels, word games, concentration, hangman;
- Utilities: speech and sound utilities, icons and icon maker, WindowShade, CNSay;
- Extensions: BigFoot, Eyeballs, Randomizer, Screen Saver:
- Control Panels: menu-bar clock/calendar, virus detection programs;
- Fonts, Sounds, Graphics, Bonk!, Creak!, Cartoon and Cursive fonts, holiday icons;
- Bonus: Oscar the Grouch sings "I Love Trash."

All MacPac I programs require System 7 or higher on LC computers and better. All programs that work with the mouse will work with the TouchWindow. Games can be easily adapted to work with single switches for cooperative play.

The MacPac I package is available for only $75.00 plus $4.50 postage and handling. Purchase orders are accepted. Technology for Language and Learning also has a catalog ($10.00) featuring its collection of more than 350 public domain volumes for the Apple II and Mac LC with a IIe emulation board.

Contact Technology for Language and Learning, East Rockaway, NY 516/625-4550, fax 516/621-3321.

Kids Explore Music with *A Little Kidmusic*

A Little Kidmusic teaches children ages 3 and up about music. Young children play a tune by tapping any key; harmony follows automatically. Older children can try playing rounds with other students or with the Macintosh playing the parts. All age levels can write and record their own melodies. The software adds accompaniment. *A Little Kidmusic* is customized for different age groups and its library of songs is easily expandable. Contact Ars Nova Software at 800/445-4866 for more information.

Booklet for Parents Explains Mediation Process

When Parents and Educators Do Not Agree: Using Mediation to Resolve Conflicts About Special Education is a 20-page booklet that explains the mediation process and offers clear and complete answers to many commonly asked questions.

Using a question/answer format, the booklet provides basic information to help parents decide if mediation is right for them, offers guidelines and tips to help parents prepare for and participate in mediation effectively, outlines the stages of the mediation process, provides a glossary of terms, and offers advice about seeking legal help.

Order from Center for Law and Education, 1875 Connecticut Avenue NW, Su. 510, Washington, DC 20009. Up to three copies can be ordered for $4.00 each plus $3.00 for postage.

ATEN Offers Technology Exchange Network

The Illinois Assistive Technology Exchange Network (ATEN) offers school administrators and special education directors access to assistive technology devices and other educators who have used them. ATEN is a state-wide database of devices and technical assistance developed through a partnership between ISBE and United Cerebral Palsy.

ATEN has three goals:

1) to create and maintain a database of special education assistive technology devices so schools can exchange equipment no longer in use and reduce the cost of obtaining needed equipment.

2) to provide access to technical assistance through a peer-to-peer network of educators experienced with a specific kind of assistive technology and/or disability.

3) to increase access to assistive technology through donations of used computers, peripherals, alternative input devices and communication devices from corporate and individual sources. ATEN will collect, evaluate, repair, and upgrade this equipment when possible, then make it available to schools.

For more information or for forms to use for posting information about equipment, call Pam Ross at 312/626-2836 or 800/476-2836; fax to 312/626-8444; e-mail aten@isbe.state.il.us

Letters can be sent to Ms. Ross at ATEN, c/o Arthur Rubloff Center, 4540 W. Washington Blvd., Chicago, IL 60624.

To access the ATEN database, click on the ATEN icon on the ISBE homepage. The address is http://www.isbe.state.il.us/homepage.html

New 'Little Critter' Software Soon Available

Coming soon from Big Tuna New Media...

If you love *Just Grandma and Me*, watch for the release of the latest Little Critter adventure on CD-ROM, Mercer Mayer's *Just Me and My Dad.* Surprising "hot spots" and an animated video add to the fun of the familiar story of Little Critter's camping trip with his dad. The canoe sinks; a bear gets away with the fish Little Critter caught; and Little Critter scares himself by telling his dad a ghost story.

Targeted for children ages three to eight, *Just Me and My Dad* will charm the child in adults as well! Watch the software catalogs for this one—and add it to your wish list of software to order for the fall!

Another Adventure with McGee and Friends

Using *McGee School Days*, young children can join McGee, Katie, Tony, and their new friend Ushi in their exciting learning adventures on the school playground as they Play Duck-Duck-Goose, Hopscotch, I Spy, and other classic playground games.

Letter sounds, numbers, shapes, patterns, and directions are concepts incorporated into the program. Children will have fun learning with McGee and his friends at school.

As with the other McGee software, *McGee School Days* has a "no reading approach." Children are successful each time they use the program.

The program costs $69.95. Order from Edmark by calling 800/362-2890.

Calendar of Conferences

April 17-20, 1996: Children...The Heart of the Matter, 1996 Midwest AEYC Conference in Lincoln, NE. Contact Linda Meyers, Nebraska AEYC, Box 94987, Linclon, NE 68509-4987.

April 29 - May 3, 1996: "The Changing Face of Developmental Disabilities: Challenges and Opportunities in Service Delivery, Policy, and Research" in New York, NY. Contact 212/563-7474, ext. 140.

May 22 - 24, 1996: ADA...Investing in America's Future in Springfield, IL. Contact Alan Wilson 800/433-8848.

June 3-6, 1996: Fifth Annual Teaching and Technology Conference in Bismark, ND. Contact Bismark State College Community Services, 800/852-5685.

June 7-12, 1996: Exploring New Horizons...Pioneering the 21st Century, RESNA '96 Conference in Salt Lake City, UT. Contact RESNA, 703/524-6686.

June 11-13, 1996: National Educational Computing Conference in Minneapolis, MN. Contact NECC '96/ISTE, 1787 Agate Street, Eugene, OR 97403-1923.

June 17-22, 1996: World Conference on Educational Multimedia and Hypermedia in Boston, MA. Contact Association for the Advancement of Computing in Education; 804/973-3987.

June 26 - 28, 1996: Pathways: Training Institute on Early Intervention Service Coordination in Madison, WI. Contact Melanie Schneider 608/265-2063 or 800/532-3321.

July 10-13, 1996: Open Minds Open Doors, 1996 Autism Society of America National Conference in Milwaukee, WI. Contact 414/427-9345.

August 4-7, 1996: Educational Technology Conference & Expo '96 in San Francisco. Contact LRP Publications at 703/684-0510.

September 16 - 18, 1996: Instruction, Inclusion, and Technology, 4th Annual Conference in Austin, TX. Contact Jamie Judd-Wall, 512/280-7235.

September 20 -22, 1996: National Capabilities Expo '96 in Chicago, IL. Contact 78/468-7500.

October 24 - 26, 1996: Closing the Gap Conference in Minneapolis. Contact 612/248-3294.

December 6 - 8, 1996: Zero to Three Eleventh National Training Institute in Washington, DC. Contact Sharon Godsey, 703/356-8300.

December 6-7, 1996: Tel•ED '96 in Tampa, FL, co-sponsored by ISTE and FACE. Call 541/346-3537.

New Address

SoftTouch/kidTECH
4182 Pinewood Lake Drive
Bakersfield, CA 93309
805/396-8676
fax 805/396-8760

Free K-12 Special Education Software Catalog

Cambridge Development Lab's Special Education Software for Grades K - 12 is available for the asking. The catalog includes 316 Apple II titles, 233 Mac titles, 295 IBM titles, and 85 Windows titles. CDL believes software should "guide children into thinking for themselves, solving problems, and making decision...expose special education students to interesting and meaningful content which has the power to draw them into learning." The company has a set of eight criteria software must meet before it is included in CDL's catalog. Call CDL at 800/637-0047 for more information.

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For a year's subscription to *ACTTive Technology*, complete this form and return it with a purchase order or check for $16.00 to Macomb Projects, 27 Horrabin Hall, Western Illinois University, Macomb, IL 61455.

Orders from outside the U.S. must be paid for in U.S. funds drawn from U.S. banks.

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VOLUME 11, NUMBER 3 Summer 1996

Technology Use in Early Childhood Programs

Project ACTT Reports Outreach Survey Results

by Linda Robinson and Carol Schneider

This report summarizes technology practices compiled from a recent survey distributed to 61 ACTT (Activating Children Through Technology) Outreach Sites. Responses from the 34 sites returning the survey were analyzed. These sites had used technology 1 to 15 years, with most averaging 7 years. Most children served by the sites have developmental delays or mental impairments. A total of 1,831 children are served by 395 staff from the 34 replication sites. At least 10% of these children use technology.

IEP and IFSP Goals

Fifty percent of the responding sites have technology written into the children's IFSPs or IEPs. These sites are located in Hawaii, Illinois, Iowa, Missouri, New York, Tennessee, Texas, Wisconsin, and Canada. This figure represents an increase of 14% from the 1994 ACTT Outreach Survey.

Each site was asked to mark the following list of objectives for computer use. Cause and effect was the main objective for computer use (34 responses). Turn taking and attention (29 responses each) were a strong second with communication and language equally placing third (28 responses). No sites selected "games" as an objective for computer use. During ACTT training, we promote the use of the computer and software as an integrated curriculum activity for children. We encourage computer use for all children with a variety of skills and experiences but generally *not* for "drill and practice." Figure 1 shows the objectives most frequently reported by sites.

Figure 1: Objectives Most Frequently Reported

Objective	Response	Objective	Response
Cause & Effect	34	Turn Taking	29
Attention	29	Language	28
Communication	28	Vocabulary Development	23
Cognitive	23	Social	23
Fine Motor	20	Listening Skills	21
Eye-hand Coordination	20	Picture Identification	19
Concept Development	20	Object Identification	17
Control Over Environment	15	Problem Solving	16
Basic Skills	15	Pre-academic	14
Counting	14	Physical Access	13
Classifying	14	Motor Skills	13
Child Goals	14	Letter Recognition	10
Emotional Parallel Play	11	Sorting	7
Games	0	Other	0

Benefits of Technology

The sites were asked to list the ways technology has benefited their program. These responses were summarized and categorized by families, staff, and child. Benefits cited are quite similar to the benefits noted in the 1994 study by Hutinger and her colleagues which examined technology use by ACTT children over time. Responses included the following:

Families benefit by:

- Learning what technology is accessible.
- Learning how to use different software and discriminate what skills their child is learning.
- Experiencing the benefits of technology at an early age for their child.
- Becoming aware of ways to get technology in their child's program.
- Having the opportunity to explore the computer in a non-threatening environment.
- Using technology to facilitate communication for their child.

Staff and personnel benefit by:

- Becoming more apt at using technology.
- Increasing awareness of new and appropriate early childhood software.
- Seeing children increase their attention span, independence, and concept development.
- Seeing children become motivated and increase communication skills.
- Assisting in teacher training and classroom consultation.
- Expanding teaching modes for basic skills.

continued on page 3

EC 306031

From The Editors. . .

by Linda Robinson

I bet you didn't know that Macomb Projects has a source of wealth which few can match. We become richer as the years go on. No, it's not federal dollars which have made us rich. It's a wealth of information on technology use with young children that we have available within easy reach. Some projects are now conducting research on the topic of early childhood technology, but very few have followed a site that has used technology for fifteen years. The richness of information that can be obtained from such a site is unmatched. That's why we feel fortunate to have continued contact with these early childhood personnel.

Over the past thirteen years ACTT has provided technology training to families and personnel at 61 sites across the country. Over half of those programs still use technology with children. We obtain updated information each year through a survey we send out in the Fall. As you will notice in our cover story, sites provide data on objectives for using technology, benefits reported by families, equipment used, and obstacles to be overcome. Besides this information we ask each site to write a short narrative on child and family technology use with case study examples. These individual stories paint the true picture of what technology means to a young child and his or her family.

For those who have used technology since the days of the Apple II and before, changes are reported over time as different children enter and leave the program. However, the objectives and benefits remain fairly consistent over the years. This tells us a lot. The underlying goals for using technology remain the same no matter how sophisticated and fast the computer becomes. This is important information to be shared with software developers and anyone designing curriculum activities. Off-computer materials and activities should be designed to reinforce those same objectives. As the technology continues to change, we'll have to see how consistent the responses are from sites. Survey results next Fall may add a new richness to our data.

As you enjoy the last half of the summer, you may want to test some new curriculum ideas found in this issue. We've included two computer activities to give you an added boost into curriculum integration. One activity centers around *Just Grandma and Me*, Little Critter"s adventure at the beach with Grandma. We've included ideas for a beach theme and a grandparents theme. (In a future issue, we will provide examples of overlays designed for Key Largo use with Ke:nx. The overlays will be set up according to a progression of levels for children learning to use a touch tablet.)

The second activity is based on *If You Give A Mouse a Cookie*. Examples of activities according to themes or centers in the classroom are given. You will also find ideas for dramatic play activities with *The Backyard* and a variety of ideas for using *HyperStudio*. We hope you enjoy these curriculum ideas and the many pieces of resource information as you begin to plan ahead for the Fall.

Take time to think about the objectives for which technology is used in your program or with your child. Our site survey results may provide you with some valuable data you have been looking for. It's a wealth of information we all can share.

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Survey continued from page 1

- Offering another teaching tool which uses more senses (visual, audio, tactile).
- Increasing methodological approach to children's computer skills.
- Increasing their awareness of computer skills.
- Integrating classroom activities with the computer curriculum.

Children benefit by:

- Progressing in skill development with the reinforcement from the computer.
- Becoming independence.
- Encouraging parallel-play and turn-taking rather than regular game playing.
- Increasing communication skills.
- Having a way of accessing the world for the child with physical disabilities.
- Providing a tool to help learning.
- Helping children learn in new ways.
- Being successful using the computer.
- Providing an opportunity to communicate.
- Enhancing motivation for the child.

Technology Assessments

Sixteen sites reported that they do conduct technology assessments for children. The personnel who make up the team include the teacher/child development specialist (13), parent and physical therapist (12) and the occupational therapist and speech/language pathologist (11).

Figure 2: Technology Team Personnel

Personnel	Response
Teacher/Child Development Specialist	13
Physical Therapist	12
Parent	12
Speech/Language Pathologist	11
Occupational Therapist	11
Student	7
Technology Specialist	7
Other	2
Diagnostician	1
Social Worker	1
Rehab Engineer	1
Paramedic	0

Equipment and Materials Used

Even though the Macintosh is becoming more popular in early childhood programs 27 sites indicated that they are still using the Apple IIe and Apple IIGS computers. Sites reported that 28 Apple IIGS, 30 Apple IIe, 24 Macintosh, 20 IBM/Compatibles, and 4 other computers are being used. Some computers are also used for administrative purposes.

The switch is the most frequently used peripheral with young children with the Echo Speech Synthesizer placing second and the Apple TouchWindow placing third, indicating the Apple computer is used most often with the young children. The following chart shows peripherals available and those used most frequently at the ACTT Replication Sites.

Most staff site members use the computer as a tool for themselves (28 staff members out of 34 responded they used the computer). ACTT's philosophy is based on the assumption that those who are computer users see the value in technology use for themselves and others and are then more likely to use applications with children. We also believe that if the teacher and/or facilitator is comfortable using the computer, they set a good example for the children and families as well as other staff members.

Figure 3: Equipment

Peripheral	Have Available	Used Most Often
Printer	31	9
Apple TouchWindow	26	12
Switch	25	15
Echo Speech Synthesizer	21	14
PowerPad	21	8
Muppet Learning Keyboard	17	8
Apple Switch Interface	17	7
Adaptive Firmware Card	14	4
Joystick	14	2
Unicorn Expanded Keyboard	13	2
Multiple Switch Box	11	4
Mac TouchWindow	10	5
IntelliKeys	10	3
Echo LC for Mac	9	2
Ke:nx	9	3
Key Largo	6	1
Fingerprint Card	6	1
Mac Switch Interface	6	1
Koala Pad	3	0
Florida Expanded Keyboard	0	0

continued on page 4

September Dates Set for Team Technology Assessment Training

Macomb Projects' TTAP: Technology Team Assessment Process invites you to learn about technology team assessment this Fall. TTAP has scheduled a three-day training session at Western Illinois University September 25-27th, 1996. Content is based on a team approach to technology assessment developed by TTAP. During the training, participants learn how to select equipment and software for an assessment, how to evaluate positioning and equipment placement, and how to determine input method and curriculum applications for children, birth to eight years, with mild to severe disabilities. Participants receive "hands-on experience" with the process by actually planning and assessing a young child's technology needs as team members.

At this time TTAP is taking applications from sites interested in adopting our technology assessment model. There is no training registration fee for those adopting the TTAP model into their program. For further information on adoption site requirements, the training agenda, and a registration form, please contact Linda Robinson by calling 309/298-1634 or faxing 309/298-2305.

Survey continued from page 3

Obstacles to Technology Use

The sites indicated obstacles to using equipment effectively. The obstacles include updating equipment and software, lack of administrative support, temperamental equipment, lack of memory for the Macintosh computer, limited time to learn to use the computer, lack of funds, lack of training for current and new staff, and some teachers' inability to perceive and use the computer as an integrated part of curriculum and not just as an additional isolated activity.

Hutinger, P., Hall, S., Johanson, J., Robinson, L., Stoneburner, R., & Wisslead, K. (1994). *State of practice: How assistive technologies are used in educational programs of children with multiple disabilities.* Final Report. Macomb, IL: Macomb Projects, Western Illinois University.

Equip for Equity Provides Legal Advocacy Services for Children's Assistive Technology

Through generous support from the Illinois Assistive Technology Project (IATP), Equip For Equality, Inc. is providing legal advocacy services to children with disabilities who need assistive technology for educational purposes. The intent of this joint initiative is to increase access to assistive technology devices and services for eligible children through local school districts.

The focus of the legal advocacy services are Illinois students with disabilities who have been denied assistive technology services or devices. Equip for Equality, Inc. will consider referrals of children who are denied an assistive technology evaluation after a request has been made to the local school district, delays in the timely acquisition of an assistive technology device or service, the non-implementation of an IEP with documented assistive technology, or the lack of training to use a device.

Regional offices have been established throughout Illinois. Phone numbers are 800/537-2632 (Chicago), 800/758-6869 (Rock Island), 800/758-0464 (Springfield), and 800/775-3304 (Carbondale).

A Macintosh Tip

Getting the Most From Your Mac's Memory

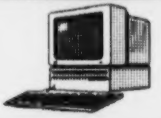
Documentation for software often points out that a certain amount of free RAM (let's say, for example 1500K) is required for the program to run. What this means is that you cannot have other applications open that leave you less than 1500K free, even though you may have a lot more RAM installed on your computer.

If you have problems using a program and want to check your available RAM, click the Apple icon on the menu bar and look under "About this Macintosh." You'll be given information about available memory. If you don't have enough to run the software, try quitting applications that may have been left open or turn off INITs. If neither of those options works, you need to reach for the phone and order more memory for your computer.

Grant Fund Provides Assistive Tech Resources, Services

In these days of expensive products and services, funding is hard to come by. If you are looking for sources for grant funds to help a particular child with disabilities or some aspect of your agency's program for children with disabilities, contact the Disabled Children's Relief Fund. The fund will provide money ($100 - $1000) for assistive devices, rehabilitation services, and institutions.

Request applications by contacting Disabled Children's Relief Fund, 50 Harrison Avenue, Freeport, NY 11520; 516/377-1605.



Curriculum ACTTivities

Editor's Note: The following curriculum activity is taken from the revised *Building ACTTive Futures: ACTT's Curriculum Guide to Young Children and Technology*. The revised curriculum will be available this fall.

Spending Time with Grandma

One of the proudest and happiest times preschoolers spend is the time that they spend with their grandparents. For some children the visits are infrequent due to distance or other factors. No matter what the reason, most children treasure the time they can spend with grandma or grandpa.

Brøderbund's Little Critter adventure, *Just Grandma and Me,* encourages children to remember and relate their own experiences with their grandma. Has their grandma ever taken them on a bus or to the beach? Did funny things happen to them, like they did to Little Critter? What was their favorite time spent with grandma?

Equipment and Materials:

Macintosh computer with Color Monitor
(4 MB RAM with System 7.0 or 2 MB RAM with System 6.07/6.08)
CD-ROM Drive
TouchWindow®
Just Grandma and Me (Brøderbund) CD-ROM

Ahead of time:

Position the monitor on a low table with the keyboard and computer out of the child's visual field. To limit distractions, cover the pieces of equipment that are not being used by the child. Secure the TouchWindow on the monitor with velcro. Position the monitor so that it is within easy reach for the child.

Open the CD-ROM, *Just Grandma and Me,* and select the "Play" option. Under the Control Panel, select "TouchWindow" and calibrate the Window. Test the device with the program before the children use it.

Computer Activity:

In a group activity encourage the children to take turns pressing an object or character on the screen. Talk about what they think will happen. After the children have explored a screen, ask them if they remember what a particular object did. Ask each child to pick a favorite one again to activate. The child can talk about why she thought that one was the best.

The children can listen to each page of the story, then explore the various objects and characters on each screen. Talk about what is happening in the story and on the screen. Encourage the child to pick an object on the screen and predict what it will do. Relate the scenes to experiences in the child's life. During free play, the children can explore the program independently.

Related Activity:

Encourage each child's family to send pictures of grandparents. Assist each child in assembling a book about his/her grandparents which includes pictures, drawings, mementos, and experience stories. The children can share their books during a group activity.

Create a beach scene in the classroom with sand and water trays with accompanying toys. Encourage the children to bring shells or other souvenirs from home which relate to the beach.

Invite grandparents to visit the classroom on a designated "beach" day. Have a picnic snack on the "beach."

continued on page 6

Grandma continued from page 5

Design a foam board as a beach background with various objects related to water and sand activities. Characters from the program can be captured and printed. Attach velcro to all objects and characters so that the children can then play and create their own beach scenes.

Read other books in the class about grandparents. Discuss the different settings in the story and how they relate to Little Critter and his Grandma. Also discuss how the stories relate to the children's grandparents.

Curriculum Integration Ideas:

There are two main themes, grandparents and beach, which can be integrated into the curriculum:

Create a beach environment in the room so that children can experience and explore with all of their senses what it would be like to walk and play on a beach:

Beach

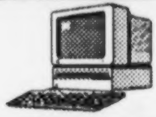
- Sight:
  - Elements - sand, water, sunshine
  - Objects - shells, rocks, beach umbrella, kite, towel
  - Toys - shovel, bucket, float, beach ball
  - Animals - birds in the sand, fish
- Sounds:
  - Ocean (use a conch shell)
  - Waves hitting the shore (recording)
  - Bird sounds, whale sounds (recordings)
  - Songs and music about the sea
  - Wind
  - Airplane
  - Insects
- Smell:
  - Fresh air
  - Fishy water, smell of dead fish, shells, seaweed
- Touch:
  - Play in sand and water
  - Feel wind blowing (fan)
  - Wiggle feet and toes in the sand
  - Feel hot sun on skin
  - Lie on a towel to catch rays of sunshine overhead
- Taste:
  - Cold drinks on the beach
  - Sand in the food

Grandparents

- Special Event:
  - Invite grandparents to visit on a designated day
  - Encourage grandparents to volunteer to teach the children a special skill or demonstrate a hobby
  - Take a field trip to one of the grandparents' houses or farms as invited
  - Ask grandparents to share shells or other beach items with children
- Dramatic Play:
  - Dress-up as grandparents
  - Act as older people
  - Play "house" with children being different family members including grandparents
- Artistic Expression:
  - Draw pictures of grandparents
  - Draw a picture of what child thinks he will look like as a grandparent
  - Create pictures about favorite things or events related to grandparents

Summary:

A computer program is the means by which a Mercer Mayer story comes alive for young children. By touching an object or character on the screen children can interact with the story. Experiences with grandparents can become part of the classroom activities by exploring the characters and objects in the program. Through creative environment design, the beach can be brought to the children to experience firsthand. The computer interaction sparks curiosity and awareness which can then be transferred to the child's environment. By adapting the program through use of touch tablets or switches, each child is insured equal participation in the activities.



Curriculum ACTTivities

Editor's Note: The following curriculum activity is taken from one of the Emergent Literacy Instruction and Support Services (Project ELIPSS) viewing guides. For more information about the Project ELIPSS fall programming, see page 10.

What Happens in *Your* Classroom When You Give A Mouse A Cookie?

If You Give A Mouse A Cookie, published by HarperCollins Interactive, is an interactive reading adventure about a day in the life of a boy and his mouse. Through narration, the storybook comes to life with animation and sound effects. Children are allowed to play the story, look and listen, or pick-a-screen. Children can join in the story at any time while using the interactive storybook feature to animate different parts of each screen. This mode gives the child control over the reading of the text. On all screens, children can have the story read to them, or they can click on the word they want to hear.

The CD-ROM sells for $29.99.

System Requirements: Macintosh or IBM compatible, 13" color monitor, System 7.1 or later, 4 MB RAM, CD-ROM Drive.

Objectives:

1. Children will become more knowledgeable about actions which lead to other actions.
2. Children will follow a chain of events story line and then create their own version to fit the pattern.

Materials:

If You Give A Mouse A Cookie, book, by Laura Joffe Numeroff
If You Give A Mouse A Cookie, software published by HarperCollins Interactive

Beginning Activity:

Read the book *If You Give A Mouse A Cookie* aloud to the children.

Discuss with the children why the mouse wanted or needed each new item. (For example, he wanted the milk because the cookie made him thirsty.)

Computer Activities:

Children can listen to *If You Give A Mouse A Cookie* on CD-ROM by selecting "Mouse Option: Play the Story."

Children can explore the software independently or in small groups using "Book Option: Look and Listen," where they will reveal many surprising and interesting hot spots.

Other Activities:

1. Invite children to change the book's pattern to create a new story. For example: If you give a ______ a _____, she might want a _____.
2. Lead the children in a discussion of the activities and food of real mice. Record children's responses on large sheets of chart paper.
3. Allow children to act out parts of the story using the objects mentioned (i.e., cookie, cup, broom, mop, blanket, pillow, crayon, paper).

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If You Give A Mouse A Cookie

Theme Planning Example

COOKING/SNACKS

- drink milk with a straw
- bake chocolate chip cookies
- try different types of cheese
- cheese snacks/taste test

CONSTRUCTION

- build house out of blocks
- include a little mouse and other props from story (doll house furniture, powder box, scissors, crayons & paper and others)

ART

- make a mouse puppet
- use cookie cutters and play dough
- draw a picture of what the mouse might draw
- make collages of a mouse day

SENSORY

- talk about how cookies taste, feel and smell before and after baking
- feel, smell, listen and observe a real mouse
- listen to audio tape *If You Give a Mouse a Cookie* at listening center

SCIENCE/MATH

- graph favorite kind of cookie
- melt chocolate chips (watch changes)
- estimate the number of chocolate chips in a cookie, count how many chips
- sequence events using objects that were in the story
- sort different types of cookies
- compare size of cookie before and after baking
- discuss how mice help/hurt environment
- measure length of children's hair

FAMILY CONNECTIONS

- bake cookies, send to school with recipe
- re-tell story at home using a prop bag
- children put on performance of *If You Give a Mouse a Cookie*
- invite parents to stay for cookies & milk

OUTDOOR PLAY/MOTOR

- sweeping and scrubbing
- scamper like a mouse through an obstacle course
- go on a walk and pick up litter

RELATED BOOKS, POEMS, STORIES

- non-fiction books about real mice
- nursery rhymes and songs with mice (Hickory Dickory Dock, Three Bllind Mice)
- *If You Give A Moose A Muffin* by Laura Joffe Numeroff
- *Mouse Paint* by Ellen Stoll Walsh
- *The Red Ripe Strawberry and The Hungry Bear* by Audrey Wood
- *Seven Blind Mice* by Ed Young

GROUP/INDIVIDUAL STORY EXPERIENCES

- puppets & puppet stage
- songs about mice or cookies ("who stole the cookie")
- change animal and setting to make new story

DRAMATIC PLAY

- set up props to act out story
- make a mouse mask and boy mask
- pantomime actions of the mouse
- have a mouse cleaning service

EXTENSIONS BEYOND CLASSROOM

- field trip to pet store to see mice
- go to a bakery to see them bake cookies

LITERACY LINKS

- listen to story on tape
- compare/contrast with *If You Give a Mouse a Muffin*
- display recipe on chart paper
- compile class cookie recipe book
- write own story based on story book

COMPUTER

- read and play *If You Give a Mouse a Cookie* CD-ROM by Laura Numeroff

Project ELIPSS is funded by the U.S. Department of Health and Human Services; Administration for Children, Youth, and Families; Head Start Bureau. #90YD0020/01

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Portfolios in the Early Childhood Classroom

Editor's Note: The information in the following article was adapted from the *Expressive Arts Curriculum*, a product of the Expresive Arts Project. The curriculum will be published and available by January 1997.

A portfolio is a purposeful collection of a child's work showing the child's efforts, products, and growth over time. Portfolios can be easily adapted into a program. They are practical and useful as reporting and planning tools.

Assessing Products

Portfolio assessment complements a curriculum that respects the individual needs, interests, abilities, learning rates, and learning styles of each child. Early childhood staff, support staff, and families can maintain ongoing records of the amount of time activities are used by children and the nature of the activity. Records on family participation and satisfaction can also be collected. Child outcomes can be measured by analyzing art images (Kellogg, 1970) and analyzing emerging symbols of writing that often accompany children's drawings (Barclay, 1990; Dyson, 1986; Jalongo, 1992).

Portfolios involve children in their own assessment by enabling them to select their own work samples...

What are the benefits of portfolio assessment to the child? Portfolio assessment reflects the individuality of the child. It gives the child ownership of the process as well as the product; it encourages the child to evaluate his or her own work; it supports the child's chances for success, competence, and self worth; and it documents the child's growth over time.

What are the benefits of portfolio assessment to the teacher? It increases teacher's awareness of how children learn; it links activities, learning, and assessment in an interactive way; it supports and guides curriculum planning; and it serves as a vehicle for communicating with parents.

A child's portfolio is one method of collecting data to be used with authentic or performance-based assessment. It contains samples of a child's work collected over a period of time. Children themselves, or in collaboration with the teacher, can select the items they want included in their portfolios. Items are placed in the portfolio at regular intervals. Authentic or performance-based assessment is a two part process: current work in the portfolio is assessed and progress is evaluated by comparing earlier pieces to present work.

Portfolios provide authentic assessment by reflecting the child's actual classroom work. A broader range of cognitive skills can be assessed. Evaluations are more reliable using more than one sample of performance. Both process and outcome can be assessed. This results in a more thorough evaluation and allows comparisons of work over time. Portfolios provide valuable information for effective planning for learning. Portfolios involve children in their own assessment by enabling them to select their own work samples for the portfolio (Valencia, 1990; Wolf, 1989).

Organizing a Portfolio by Domain Skills

Portfolios can contain samples of a wide variety of items and be organized by domain skills:

Cognitive Development

- Photographs of the child measuring or counting specific ingredients while making play dough.
- Work samples, teacher notes, taped child interviews illustrating the child's understanding and utilizing of concepts, exploring, hypothesizing, and problem solving.

Communication Development

- Taped child conversations that show the child's increase, over time, in communication, vocabulary and skill in use of the language.
- Logs of book titles read to the child or read by the child.
- Copies of stories, poems, or songs the child dictated or wrote.

Fine Motor Development

- Drawings and paintings of events, persons, and animals, computer generated drawing and graphics. The child might dictate descriptions or explanations of the drawings to an adult or attempt to write his or her own.
- Photos of unusual block constructions or projects that demonstrated developmental milestones, labeled and dated.
- Collages and other examples of the child's use of various media.

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Family Village Web Site Provides Information, Networking

The Waisman Center (University of Wisconsin-Madison) has created "Family Village" site on the Internet. The purpose of the site is to provide families of children with disabilities access to information and to other families with similar interests. Resources for organizations, information, toys, health care, equipment are available, as are e-mail support groups for parents. The home page URL is http://www.familyvillage.wisc.edu

Send an e-mail message to ematches@waisman.sisc.edu for more information about one-to-one contact with other parents or on-line parent support groups or contact Linda Rowley at 608/263-5973.

Project ELIPSS to Broadcast Three Literacy Programs

Macomb Projects' Project ELIPSS (Emergent Literacy Instructional Program and Support Services) will broadcast the final three of six interactive satellite programs focusing on emerging literacy on September 10, October 8, and November 5. The programs will be broadcast from 5:00 - 6:00 Central Time.

The fall series includes

1) *Making Quality Children's Literature Available to Every Child: Choosing and Using Literature.* Suggestions for selecting a variety of literature and strategies for sharing this literature with children at home and in the classroom are the focus of this broadcast.

2) *The Shared Language Time: Beginning Reading Through Rhymes, Songs, Poems, and Big Books.* This program contains procedures for conducting Shared Language Time using Big Books, charts, pocket charts, and other materials designed to acquaint young children with the functions, forms, and conventions of print. Also included are strategies for encouraging children to respond to literature through a variety of hands-on activities, including technology, art, music, drama, and writing.

3) *Ongoing Assessment of Emergent Literacy Behaviors.* Ideally, assessment and instruction operate as continuous and simultaneous processes, each serving to inform and shape the curriculum. Examples of how individual teachers might create and implement developmentally appropriate assessment procedures, and how the information might be conveyed to parents and other appropriate individuals are among the ideas presented in this program.

To register for the broadcasts, call Project ELIPSS at 309/298-1634 or fax 309/298-2305. While it is not necessary for you to register to view the programs, you must register if you wish to receive the programs' accompanying viewing guides. There is no fee for Head Start personnel. Viewing guides are available to others for a small fee.

Videotapes are made of each broadcast and are available to those who missed the previous three programs.

Persons interested in being Literacy Resource Coordinators (LRCs) at downlink sites should call the ELIPSS office for more information. The LRC training broadcast will air on August 20 from 5:00 - 7:00 p.m., Central Time. Videos are available of the February LRC training program.

Project ELIPSS is funded by the U.S. Department of Health and Human Services, Administration for Children, Youth, and Families, Head Start Bureau.

Indexing and Ordering Videotapes with CVideo

by Robert Rippey, PH.D.

One of the latest software additions to Macomb Projects' research armamentarium is Envisionloogy's *CVideo*™, a video annotation tool which turns a disorganized mass of videotapes into a compact organized presentation. CVideo connects a slave VCR to a Macintosh computer through the computer's phone modem. The computer then controls the operation of the VCR and keeps track of the position of the tape. The *CVideo* software also includes a word processor so comments about the tape can be entered, time stamped, and subsequently printed out. The computer will then initiate tape searches to any desired time stamp. Thus, time stamped segments of a tape can be recombined onto a second VCR in any sequence.

CVideo will be used by Macomb Projects' Project ECCTS (Early Childhood Comprehensive Technology System) in a number of ways. For example, we want to do case studies of individual students who appear and disappear from the filming at various unpredictable intervals. By time stamping these events, we can produce a single tape which follows the progress of a particular student from the beginning of the project to the end. Another tape will be prepared which shows how children cooperate when using the computer. Another tape might show instances where they do not cooperate or where they use devious means of obtaining control of the computer when it is not their turn.

CVideo has been the answer to several of our many prayers as we conduct research on a comprehesive technology system's effect on children. If it is of interest to you, or if it appears to solve a particular qualitative research problem you are having, call Robert Rippey at 309-298-1634 for more information. *CVideo* costs about $150.00 and is worth at least that in sparing you aggravation.

To order, contact Knowledge Revolution.at 415/574-7777.

Software Contains Valuable Feature for Teachers

Hartley CD-ROM software contains the Student Tracking and Menu System (STEMS) feature. Teachers can use STEMS to add or delete a student name or to view or print a brief report that lists the activities in which a student has worked and the scores which he/she has achieved. STEMS also identifies the amount of time a student has spent on each activity. Call Hartley for a 1996 catalog listing CD-ROM titles with the STEMS feature. 800/247-1380.

***Portfolios* continued from page 9**

- Samples of the child's emergent writing.

Gross Motor Development

- Anecdotes by the teacher or videotapes of the child's movement activities in the classroom or on the playground, which reflect the child's developing skills.
- Notes, photographs, videotapes which demonstrate the child's skills and progress in music/movement activities.
- Examples of the child's journal entries, drawings and emergent writing.

Social/Emotional Development

- Teacher notes and anecdotes documenting interactions between the child and his or her peers indicating such things as the child's ability to make choices, solve problems, and cooperate with others.
- Teacher notes, anecdotes, and videos of events that occurred on field trips that demonstrate social awareness.
- Chart of the child's choices of activities during a particular week or month.
- Notes from teacher-family conferences.
- Audio and videotapes of the child involved in music, visual art and dramatic play, working alone and in a group, communicating, problem solving and making choices (Meisels & Steele, 1991).

Representative samples of children's art productions should be collected and dated systematically or on a regular basis. The portfolio itself facilitates learning about learning. While the child is involved in the process of selecting work to go into the portfolio, he or she is also analyzing and assessing his or her own work. This gives children an opportunity to reflect in depth about what has been learned. Helping in the selection increases awareness of the process of learning, expands the child's knowledge about the scope of what has been learned, and allows progress to be made. When identified work samples are placed in the portfolio at regular intervals, children are able to concretely compare previous work with current work (Wolf, 1989).

Tips for Starting and Using Portfolios

Getting Started

Use the following guidelines when you start portfolios for children.

- Start small;
- Establish a schedule for collecting material;
- Select work to show and celebrate growth; and
- Trust your professional judgment.

Portfolio Contents

- Representative samples of children's art products collected regularly and dated. These can include drawings, paintings, and computer graphics.
- Photos of block constructions, clay or play dough sculptures, collages or projects, labeled and dated.
- Child's descriptions or explanations of art work. The adult or child can write this and include it with the art work.
- Samples of the child's emergent writing.
- Observational notes made by the teacher, including the child's progress in the specific domains.

Preserving Collections

- Hard copy can be saved and bound into book or folder format. When using the computer to produce visual art and other products (and has been saved to disk), hard copy can be bound into book or folder format also.
- Photographs or slides of each child's art and other products can be stored in separate albums.
- Photographs of the art and other products can be taken using a digital camera (such as QuickCam) and stored on disk for each child, or the entire collection of photographs can be compiled into a unique CD-ROM representing the work of a group of children, through a CD production system created by Kodak. Store the disk with a disk holder in the album.
- The work can be videotaped using a high quality 8mm camera and maintained on film or small videocassettes, each storing 120 minutes of video, more than enough for recording images from several children's work.
- A videotape record of each child's progress can easily be maintained and the images can be used on caption videotape or a computer screen.
- Images can also be printed with a color or black and white printer for use in written materials.
- Analyses of images, according to Kellogg and others, can be made from these sources.
- Store these portfolios in an area free from moisture, dampness, and extreme changes in heat.

Tips for Using Portfolios

- Use portfolios to broaden your assessment. Decide what domain objectives are not being evaluated adequately and use the portfolio to fill the gap.
- Use large expandable folders or folders with pockets to store portfolio contents.
- Keep the portfolio in the classroom.
- Make a cover sheet that summarizes information found in the portfolio. Include dates when contents were reviewed with the child and family.
- Include checklists, rating scales, conference notes, anecdotal records, and other assessment information.
- Ask the child to select two pieces of work; one she was satisfied with and one with which she was dissatisfied. Assist her in analyzing what there is about each piece that caused her to make this choice. Help the child determine what could be done differently in the future to improve the piece she did not like as well.
- Select, jointly with the child, several pieces from the portfolio that can be passed along to the next year's teachers (Wolf, 1989; Valencia, 1990).

For more about portfolios, see *A Technology Portfolio* on page 12

Supporting Classroom Diversity

Let's Boogie with Ani-Mates & Wacky Things!

by Letha Clark

ACTTive Technology provides this column as a regular feature for helping teachers use technology to expand their curricula to include cultural awareness and diversity.

Music is important in many classrooms full of young children. It is frequently used to ease transition times. Gentle, restful tunes are nearly always played during quiet time or rest time. What could be more fun than software for young children that provides all the props to produce a musical? *CyberBoogie! with Sharon, Lois, & Bram* is a software title that is an example of a program loaded with music.

Using *CyberBoogie* children select a background such as a railroad station, picnic area, or a gradient pastel combination. Ani-mates and Wacky Things are added to complete the scene. Wacky Things are hilarious objects that seem to have their own minds, wandering all over the screen. Have YOU seen a dancing suitcase? Ani-mates are "animals" with bodies and body parts (head, arms, legs) that can be animated. Body parts can also be exchanged and animated, making a special animal. One body can support different parts from one or four other Ani-mates. Those Ani-mates are certainly different in appearance, but their parts still work the same. Choose a tune from the "Top Ten" choices, then animate various body parts, one at a time, while the music plays. Set it all in motion with a click of the Play button.

Humming, singing, and foot tapping are encouraged while you enjoy the musical show produced by children and performed by Ani-mates.

CyberBoogie is a product of Times Mirror Multimedia and is available from Educational Resources on a dual platform CD-ROM for $33.95.

A Technology Portfolio

- Photograph each child at the beginning and end of the year using a QuickCam. Place the pictures in computerized records.
- Keep important information about the child on disk.
- Record the child "in action." Specific portions can be viewed or listened to during conferences.
- Store software programs children made using *HyperStudio* on disk.
- Store written and verbal message from programs such as *Kid Desk* and *Kid Pix* on disk.
- Store art work on disk from programs such as *Kid Pix*.
- Provide a disk for each child's data. Label with child's photo from the QuickCam.
- Record audio tapes for conversations, reciting poems, action rhymes, songs, plays, reading a book.
- Record videotapes of classroom plays, the computer center, reading a book.
- Scan drawings or photos of children's work. Save to disk.
- Store short video clips of child in a computer program.

Family Involvement

Include information from families in portfolios also. Such information might include completed surveys and forms, background information the family has provided about the child, notes and responses to materials sent home. Portfolios become a record of a child's progress, and parents enjoy receiving them at the end of the year.

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Swing into Action!

by Amy Betz and Judy Potter

Note: This article from staff members of the Expressive Arts Project is the third in a series of articles about low-tech adaptive materials for young children with disabilities.

Young children love to immerse themselves into dramatic play. Children's pretend play can be a group activity where children learn to work together to solve problems. Dramatic play can provide experiences that foster children's creative, cognitive, social, emotional, and physical development. Props are essential elements to children's play; they provide concrete objects to what can be an abstract process, but they don't have to be expensive or elaborate. You can quickly learn how to scrimp on some props in order to spend more on those special items geared towards your children's needs.

Puppets are excellent tools to use to involve children in discovering emotions and feelings. Some children respond better to puppets than to people and they can be drawn into activities by the puppet. The texture of the puppet can provide sensory stimulation. Is the cat soft? Do its whiskers tickle? The puppet can be a prop used with computer activities, such as the xylophone-playing cat in *The Backyard.* As one child activates the cat on screen, other children can make music with an off computer xylophone or make the kitten meow. If you are making your own puppets, remember to avoid using small buttons or other items which could be choking hazards. Cloth puppets and plastic puppets can easily be washed or disinfected if they are mouthed by children.

Storytelling aprons and flannel boards also provide low-tech ways to bring stories to life. Children can retell the story using characters from the story. You can capture screens of characters from children's favorite computer programs (see *ACTTive Technology,* Spring 1996, page 13 for directions), laminate them, and use Velcro fasteners or you may purchase a wide variety of stories commercially. The teacher or child can wear the apron, or boards can be made to fit a child's wheelchair tray.

Other inexpensive props include a large blanket or sheet which can become a tent, a cocoon, or a pond. Stove or refrigerator boxes can be painted to become nearly anything! Some classrooms have created school buses, spaceships, and homes out of boxes. Scarves or streamers can be used to add to the movement of a butterfly or another creature. The scarf can be tied around a child's wrist or wheelchair or walker (be certain to make it short enough so it does not get caught).

The possibilities are limitless, just use your imagination to think up all kinds of interesting props. Families probably have some treasures at home waiting to be shared with you; just ask! Netting, cardboard tubes, fabric, and of course, clothes are just a few things which can be used to swing your classroom into "dramatic" action.

State Technology Projects Provide Myriad Services

All 50 states, as well as the District of Columbia and US territories, have an assistive technology project that has been funded under the Tech Act (Title I of the Technology-Related Assistance for Individuals with Disabilities Amendments of 1994). State assistive technology projects are funded to provide assistance to individuals of all ages who need assistive technology devices and services.

Activities vary among the projects; however, most have the following services:

- information and referral services;
- 800 numbers;
- centers where individuals can test equipment and devices;
- training on such topics as funding and advocacy;
- a directory of funding sources;
- equipment exchange and recycling programs;
- support groups;
- financial loan programs;
- mobile van outreach services.

While state technology projects usually will not purchase devices for people, they all provide information

continued on page 14

Visit Tuneland for a Fun, Musical Adventure

Children ages 3 to 6 will have hours of fun with *Tuneland,* an interactive musical cartoon CD-ROM featuring the voice of Howie Mandel as the bear pal "Lil' Howie." Don't be surprised if children laugh at Lil' Howie's antics, sing along, or break into a dance!

The animation is feature-film quality and more than 40 classic children's songs are included on the CD-ROM.

Tuneland and its companion program, *The Great Word Adventure,* also starring Howie Mandel, are available for both Macintosh and Windows for $39.95.

The Great Word Adventure, for children 6 - 8, contains hundreds of interactive games, songs, and stories. Both programs are available from Edutainment. Call 800/338-3844 for ordering information.

Imagine It! Do It! Create Software Unique to YOUR Classroom!

by Carol Bell

Did you know that there is software that can take you to points of interest in your community, help children read recipes and cook, split pictures into puzzles for children to put together?

Imagine preparing for a field trip to the fire station. Pull out pictures and/or video from last year's trip and scan them or add them through a video card, place them into a program in a matter of minutes, and young children can preview what they will see on their upcoming field trip! Imagine taking pictures and video on your field trip, bringing them back and incorporating them into your software program. The children can see where they have been and relive the experiences. Help children add comments and animate pictures within the software, and the result is software for the children that is specific to the culture of their environment.

Imagine preparing a cooking activity where the children plan to make playdough. Construct a rebus chart within your new software program, add verbal instructions with the written words, and add animation to help give meaning to the instruction. Now the children can cook within a child-directed classroom by accessing the computer for directions while you take a facilitator role.

Imagine making a puzzle of a child's artwork, of a picture taken of a classroom activity, or of the picture you just took of the playground. Scan the picture and add it to your program, break it into pieces that are movable, and the children can put it together at the computer. Or, you can print the puzzle on paper, tack it to a hard backing, and add a new puzzle to your classroom puzzle library.

Imagine doing all this and more for only $120.00! You can do it with *HyperStudio™ 3.0*, a user friendly authoring program. (The scanner and video card are sold separately.)

We have used *HyperStudio* as described in these scenarios and others with several preschool groups. The real time pictures and video that can be used within *HyperStudio* are beneficial when working with young children. The teachers in the classes, as well as families and people in the community, have enjoyed the benefits of using this program. The *HyperStudio* programs (called stacks) that are created can be transferred to videotape and shared with family and community members.

HyperStudio 3.0, produced by Roger Wagner Publishing is an all around terrific program for adults who find the computer an instrumental tool in the classroom and would like to invest some time in preparing *HyperStudio* stacks that support the learning process of young children. Contact Roger Wagner Publishing, Inc.; (619) 442-0522.

We have found a helpful support for using *HyperStudio* , the *HyperStudio Forum: The Newsletter of the HyperStudio Network*, an organization dedicated to the promotion and use of hypermedia to improve learning. *HyperStudio Forum* is published quarterly in January, April, July and October. To learn more, go to this address: http://HS.anoka.k12.mn.us/HSN.html

Macintosh Access for the Visually Impaired

Consider the following programs if you need access to a Macintosh for a person who is visually impaired.

CloseView is a utility program supplied on the Macontosh system software Utilities Disk. It enlarges information on the screen.

inLarge enlarges information on the screen and provides a "crosshair" option for locating the cursor. (Berkeley Systems, 510/540-5535; $95.00)

outSpoken provides auditory access through speech synthesis. The keypads substitute for mouse control.(Berkeley Systems, 510/540-5535; TeleSensory, 800/227-8418; $395.00).

Duxbury Braille Translator provides hardcopy Braille output for textfiles created with the Macintosh and translates to Grade 2 Braille with output on a Braille embosser. (Dusbury Systems, 508/486-9766; $495.00)

Ransley Braille Interface provides hardcopy Braille output for Macintosh files through terminal programs to Braille embosser. (HumanWare; 916/652-7253; $995.00)

***Technology Projects* continued from page 13**

and access to various funding sources and will help individuals obtain equipment and devices through those sources.

If you are unaware of the services provided by your state technology project or if you need information on how to contact your state project, call RESNA at 703/524-6686. RESNA has developed a clearinghouse of state assistive technology projects' activities, materials, and resources and can provide you with contact people at your state project.

The preceding information was provided by the RESNA Technical Assistance Project, funded by the National Institute on Disability and Rehabilitation Research (NIDRR) to provide technical assistance to the 55 grantees funded under the Tech Act.

Software Designed to Increase Cursor Size

RJ Cooper & Assoc. recently introduced *Biggy*, a program which installs in the Macintosh Control Panels folder and offers four different, very large cursors to chose from. Each cursor works with or in any program. The program includes an option that automatically doubles the size of all system and application-specific cursors. Cost is $89. Although this program is good for cursor enlargement, users should be aware, that system problems may occur with some Macintosh models.

Another new product is Virtus VR, which helps teach visual-spatial concepts. Use the program's library of environments and clip art to build simple 'worlds' and then navigate through them using a joystick. An alert sounds when the user bumps into a wall, chair, or other solid object. The program is available for both Mac and Windows and sells for $89.

For further information, contact RJ Cooper & Assoc., 24843 Del Prado #283, Dana Point, CA 92629.

Summer Software Sale

Laureate is having a special summer software sale from May 1 through August 31. All Macintosh and IBM software is 50% off! Parents and other individuals can receive information about the sale by calling 800/562-6801. (Schools, agencies, or other institutions are not eligible for the discounts.)

DRAGnet Computer Recycling has moved!

The new address is
840 - 12th Avenue NE
Minneapolis, MN
55413-1537
phone 612/378-9796
fax 612/278-9794

Calendar of Conferences

July 10-13, 1996: Open Minds Open Doors, 1996 Autism Society of America National Conference in Milwaukee, WI. Contact 414/427-9345.

August 4-7, 1996: Educational Technology Conference & Expo '96 in San Francisco. Contact LRP Publications at 703/684-0510.

September 16 - 18, 1996: Instruction, Inclusion, and Technology, 4th Annual Conference in Austin, TX. Contact Jamie Judd-Wall, 512/280-7235.

September 20-22, 1996: National Capabilities Expo '96 in Chicago, IL. Contact 708/468-7500.

October 3-4, 1996: Illinois Education and Technology Conference in Decatur. Contact Susan Ellen Bacon, 810/641-8160.

October 17-20, 1996: Forum '96 "Exceptional Parent Live, A 25th Anniversary Celebration!" in Anaheim, CA. Contact Mr. Scheps, 1/800-E-PARENT or 201/489-1240.

October 24-26, 1996: Closing the Gap Conference in Minneapolis. Contact 612/248-3294.

November 21-24, 1996: Advocacy in Action, ASHA's 1996 Annual Convention in Seattle. Contact ASHA at 301/571-0457.

December 6 - 8, 1996: Zero to Three Eleventh National Training Institute in Washington, DC. Contact Sharon Godsey, 703/356-8300.

December 6-7, 1996: Tel•ED '96 in Tampa, FL, co-sponsored by ISTE and FACE. Call 541/346-3537.

February 12-16, 1997: 1997 AECT (Association for Educational Communications & Technology) National Convention in Albuquerque, NM. Contact AECT at 202/347-7834 or fax to 202/347-7839.

Illinois Disability Research Network Conducts Research, Maintains Databases, for Disability-Related Questions

Need information about disability-related topics or equipment? Turn to Illinois' Disability Research Network (DRN), an information and referral program that answers any disability-related question.

DRN fulfills thousands of requests each year on a variety of topics including agencies, disabilities/conditions/diseases/syndromes, education, employment, adaptive equipment, funding and financial resources, law, personal care, recreation/travel, standards/statistics/surveys.

DRN also maintains a list of used equipment for sale by individuals. Persons having equipment to sell or donate may contact DRN during regular business hours.

Because DRN is a state-funded project, information is provided free to Illinois residents. A $10 fee is charged for out-of-state requests to cover operational costs.

Call DRN at 800/447-4221 or 217/523-2587 or (fax) 217/523-0427 for more information about the services offered.

Catalog Features Toys, Adaptive Devices

Check out the great adapted toys, switches, and communication devices from Enabling Devices/Toys for Special Children! The 1996 catalog is filled with over 45 pages of products, the majority focusing on toys and adaptive devices for young children. To request a copy of the catalog, write 385 Warburton Avenue, Hastings-on-Hudson, NY 10706 or call 914/478-0969.

ACTTive Technology Subscription Form

Name ____________________

Agency ____________________

Street Address ____________________

City ____________________ State __________ Zip __________

For a year's subscription to *ACTTive Technology*, complete this form and return it with a purchase order or check for $16.00 to Macomb Projects, 27 Horrabin Hall, Western Illinois University, Macomb, IL 61455.

Orders from outside the U.S. must be paid for in U.S. funds drawn from U.S. banks.

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Macomb, Illinois

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VOLUME 11, NUMBER 4 **Fall 1996**

Technology That Works: A Research To Practice Approach

by Dr. Robert Rippey, Evaluator, Project ECCTS

Project ECCTS (Early Childhood Comprehensive Technology System)[1] is a collaborative project between Western Illinois University in Macomb, Illinois, and the Just Kids Early Childhood Learning Center in Middle Island, New York. Macomb Projects has spent over 15 years studying the interactions between technology and young children with disabilities. Just Kids Early Childhood Learning Center has spent about the same number of years in developing a superior program for children with disabilities. ECCTS is carefully and intensively evaluating three strands of earlier work on technology use by children with disabilities into a single comprehensive system.

1) Technology Team Assessment Process (Project TTAP) and

2) Activating Children Through Technology (Project ACTT), developed by Macomb Projects, and

3) Bridging Early Services: Transitions (Project BEST), developed at the Associated Colleges of Central Kansas. All three strands were originally funded as U.S. Depatrment of Education Early Education Program for Children with Disabilities (EEPCD) projects.

The first thing that we learned is that all three components of ECCTS are essential. TTAP shows teachers what their children need and how computers and adaptive technologies can help fill those needs. ACTT shows them the practical means of using technology in the classroom, and BEST shows them how to work with receiving schools in order that the children not jump off a cliff into a valley of no computers once they leave the sending school.

Next, we learned that teachers need a lot of support. The first kind is technical support. Once teachers learn how to use computers and integrate them into their curriculum, it is necessary to keep the computers firing away. Software and hardware glitches are inevitable on occasion. The second kind of support teachers need is spiritual. When teachers are beginning to learn to use the computer, we need to keep their spirits up. We need to keep them excited about the future performance of their children.

During this experimental phase, Just Kids employs three people who we regularly train to help get things working again and to help teachers use software most efficiently. One of the three has a primary responsibility for data collection. However, since she is frequently in classrooms doing observation and videotaping, she can help teachers on the spot when they need it as well. A smaller school could probably get by with a tech staff of one or two persons, but no program could get along without this essential support at the beginning. Teachers come and go and new software and hardware appear frequently. Continuous training is a necessary part of the picture.

Third, we learned that children can be trusted to work with computers on their own. Indeed, one of our problems is the average teacher's fear of technology. It is important to convince teachers that computers are relatively robust and that children can use them on their own without wrecking them. Although there are occasions when it is useful for a teacher to sit at the computer with one or more children, it is seldom necessary. The ACTT model encourages children to explore and experiment with computers independently and with other children.

continued on page 3

Join Us At Macomb Projects
for the STARNET-sponsored
Early Childhood Technology Conference
on Friday, March 21, 1997

Contact STARNET
27 Horrabin Hall, Western Illinois University
Macomb, IL 61455
309/298-1634 or 800/227-7537

EC 306031

From The Editors. . .

by Linda Robinson

Are you one of those people who were fascinated by modems and telecommunications years ago but never quite knew how to take advantage of its many uses? Back in the early 1980's it seemed magical to be able to "chat" with someone from another state while you were sitting in front of your computer. Maybe we were ahead of our time, because it seems to have taken years for the technology to advance to the level that has made telecommunication a user-friendly, fast, efficient means of communication. But look at us now!! What an electronic communication society we have become today! It won't be long before e-mail becomes the most popular method of correspondence, if it is not already. So what does that mean for educators of young children?

Family members and educators of young children do not need to feel isolated anymore. Information and software is literally at our fingertips or at the press of a key. Even though resource people, such as Macomb Projects staff, are easily accessible via the phone, Internet may offer a seemingly endless realm of resources for answering some of your questions. The key is knowing how to get the most information in the shortest amount of time. Otherwise you may spend the better part of a day in cyberspace without ever getting an answer to your question. To help guide you in your Internet journey, we will be publishing addresses of resources which have information related to special education technology and young children. A couple of articles in this issue relate to these addresses.

Also, we at Macomb Projects, with over 30 staff members on 8 different grants—almost all of which relate to technology use, will have a brand new Web site, soon up and running. Our site will contain articles, software reviews, adaptive equipment information, switch schematics, curriculum activities, and much much more. We are busy gathering the information and formatting it to be accessible on our Web site.

So besides information what does Internet offer us? It is a quick and easy way to correspond with someone. If you get into a chat format which some boards, such as NCIP (National Center to Improve Practice) offer, you can throw out a question or comment and get a reply from a parent, teacher, therapist, administrator within the same day. It offers a great forum for obtaining opinoins of software programs and ideas for adaptations or curriculum use. An article in this issue lists the various discussion groups you can get into.

What else does Internet mean for us? Hopefully we can obtain data from current research, such as that presented by our ECCTS Project in the cover story, as it becomes available, instead of waiting a year for an article or book chapter to be published. This kind of exciting information about child gains is something families and educators can use immediately. Knowing these types of benefits helps to stimulate further interest into technology applications for individual children as well as preschool classrooms. Another Internet advantage is easy access to newly developed computer activities like the ones published here. These activities spark further ideas for curriculum planning.

With all of its ease of use, speed, and endless resources, it looks like telecommunications is finally here to stay. It is a great way to readily share what we develop to better serve our young children. Explore the many possibilities at your fingertips. And don't forget to check out our current Web page and stay tuned for our new site. Hope to hear from you on the Web.

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Technology That Works continued from page 1

Attribution of Effects

How many children benefited directly from the use of the computer? I have heard people at Just Kids ask, "How do you know these changes were due to the computer and not just the fact that we have a good program here"? This question is difficult to answer because we are not doing a controlled experiment where some children get the computers and others are deprived. We also know that there are one or two students who, according to their teachers, have not benefited very much from either the computer or the good program. We are trying to figure out why. Some children have made phenomenal growth and, for some of these, I am convinced that the computer has been crucial in bringing about the change. The computer has been the primary cause of a desired effect when the following conditions occur:

1) Despite massive teacher effort, the behavior or change had not occurred prior to putting the computer into the classroom.

2) The change is attributed to the computer by both the teacher and the parent.

3) The change could not have occurred without the computer OR the change occurred while the child was operating the computer. These latter changes are visible on videotape. Here are some examples we have seen:

- a child first speaks to a character on the computer or first asks for help at the computer when the child has NEVER done this before.
- a child types an intelligible expression ON THE COMPUTER and has never produced a meaningful written expression before.
- a child teaches himself to read a book like *Just Grandma and Me* independently and with the help ONLY of the computer.
- a child learns to share at the computer and had seldom shared anything else anywhere else.

I refer to one of our classrooms as a "miracle classroom" because all of the study children made remarkable gains during the eight months they were actively involved. All three study children in this classroom were labeled as MSD or having autistic tendencies, and one of the three also had severe hearing loss. Their teacher was adept at the computer and was what I would call a reflective teacher. She studied her children and adjusted her teaching according to what she saw. Her success with the children and the technology-related gains they made in her classroom can be attributed to her teaching methods:

1) She let them watch the computer from a distance when they were new.

2) She shielded them from public view on their first attempts at the computer.

3) She allowed them to perseverate on particular frames which captured their attention.

4) Later, but not at first, she encouraged them to move on.

The following example from her classroom illustrates the computer triggering an incident (seeming miraculous to some) of profound importance:

The teacher explained, "Michael[2] never used to show any affection. If you would touch him, he would scream. I showed him the frame where Little Monster hugged his grandma on the way to school. I asked him if he would give me a hug. He indicated 'no way.' Then he thought a minute and said, "Hug Vinny." Vinny was his personal aide. Then he ran over to Vinny and gave him a big hug. Now he is huggable. He would hug only his mother previously. He would never hold hands with another child. Now he doesn't cry or scream when you hug or kiss him. He likes it."

All of the videotapes taken subsequent to this event show Michael in various stages of delight at the computer. He even taught himself to read and the books accompanying the software were his constant companions when his turn at the computer was up.

Does Michael appear to be autistic now? I saw him just a month ago and talked to him. He was friendly and very polite. He also sat on my assistant's lap a day later. This school year he greets people at the door of the classroom and shakes hands with them. You decide.

What Next?

Our first goal in this study is to LEARN what consequences occur when a comprehensive technology program is introduced into an already effective special education program for young children with disabilities. We then hope to INFORM everyone who will listen about the benefits of technology in assisting children with special needs. We are observing closely and recording carefully these benefits. Teachers, parents, administrators, policy makers, and legislators need to be PERSUADED that moving special education into the 21st Century is worth the cost and effort it takes to succeed. It is also important for those stakeholders to know whether such a step forward is affordable. They need to know what is essential and what is not. Finally, we need to know how to FACILITATE this move into the future. What kinds of training, support, and incentives do teachers need in order to be the best they can be without joining the army.

ECCTS has now begun its second year. We look forward to continuing the research and letting you know what other exciting things we find.

[1] Project ECCTS is funded by the U.S. Department of Education's Technology, Educational Media, and Materials for Individuals with Disabitlities Program. PR #H180U50039

[2] "Michael" may or may not be the child's real name.

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Frame Technologies Introduces Simple Communication Aids for Non-Speaking Persons

Frame Technologies in Oneida, WI, offers six low-cost, voice-output communication devices. All use no-volatile message memory, are easy to maintain, and have a simple user interface.

Talkpad ($99)
- 4 messages, each 15 seconds long
- one minute of message storage total
- 4 round (2.25") switch buttons in yellow, purple, green and red
- blue case with carrying handle
- powered by 4 AA batteries—runs 3 - 4 months
- also available with 4 external switch jacks (price for this version is $129)

Voice-in-a-Box/16 ($195)
- 16 messages, each up to 3.75 seconds long
- one minute of message storage total
- keypad has 4 rows x 4 columns and a plexiglass keyguard with 16 holes
- rugged, sloped front case measures 10" wide, 8" deep, 4" high in back, 1" high in front
- powered by 4 AA batteries—runs 3 - 4 months
- also available with 4 external switch jacks ($229)

Voice-in-a-Box/24 ($295)
- 24 messages, each up to 5 seconds long
- two minutes of message storage total
- keypad has 4 rows x 6 columns and a plexiglass keyguard with 24 holes
- rugged, sloped front case measures 10" wide, 8" deep, 4" high in back, 1" high in front
- powered by 4 AA batteries—runs 3 - 4 months

Voice-in-a-Box/40 ($395)
- 40 messages, each up to 4.5 seconds long
- three minutes of message storage total
- keypad has 5 rows x 8 columns and a plexiglass keyguard with 40 holes
- rugged, sloped front case measures 10" wide, 8" deep, 4" high in back, 1" high in front
- powered by 4 AA batteries—runs 3 - 4 months

Voice-in-a-Box/6 levels ($495)
- 16 messages, each up to 3.75 seconds long; total of 96 messages across all six levels
- six minutes of message storage total
- message squares = 2" x 2"; 4 rows x 4 columns
- electronics are built into the "Little Smart Alphabet Desk" toy case by VTECH
- 16 hole plexiglass keyguard
- overlays slide in and out easily
- six position sliding lever on right side of case activates any of the six levels

MicroVoice ($295)
- 4 messages, each 5 seconds long
- two minutes of message storage total
- weighs 12 ounces
- message squares = 5/8" in a 6 row x 4 column matrix
- keypad uses "click dome" switches for tactile feedback
- powered by 4 AA batteries—runs 3 - 4 months

According to Chuck Frame of Frame Technologies, the MicroVoice is nearly identical to the "Vocal Assistant" from GMR Labs with these exceptions: it holds 8 more messages, has 45 seconds more message storage, and costs $200 less. The Voice-in-a-Box/6 level has the same capabilities as the "Blackhawk" from AdamLab with these exceptions: it has two more levels (32 more messages), two more minutes of message storage, and costs $200 less.

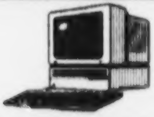
For more information about these communication devices, contact Chuck Frame, Frame Technologies, W681 Pearl Street, Onedia, WI 54155. Phone/fax 414/869-2979.
e-mail: cframe@netnet.net

Software Review

Choices Featured for Exploring Farm

Let's Explore the Farm with Buzzy the Knowledge Bug offers children the opportunity to explore over 40 different places on the farm! The children fly over the farm and choose a place to visit. The children can visit the chicken coop, stop by the farmhouse and meet the farmer, or visit the barn and learn about the dairy. Children will get an up close look at the operation of a real farm. The program offers several menu choices. Another menu choice is WHAT IS THIS? in which Buzzy labels places on the farm. If children click on an item, they go to a new screen for a close up view. The program will also give definitions of farm related words. The word is read and then spelled. Each definition is connected to others. These screens can be printed and are animated. The children might choose a TIME TO PLAY which has a selection of activities. Children can play Trivia, Eggs Away, Spell It!, Find It or the Coloring book.

Let's Explore the Farm is available from Edutainment for $35. It requires a double speed CD-ROM, a 25 MHz or faster Macintosh or a 33 MHz of faster PC system. 8 MB of RAM are required for the Macintosh, 4 MB for the PC. (See page 5 for a curriculum activity based on this software.)



Curriculum ACTTivities

Editor's Note: The following curriculum activity is taken from the *Interactive Technology Literacy Curriculum (ITLC)* currently being developed at Macomb Projects.

Let's Explore the Farm

Introduction:

Agriculture is important to our everyday living; the farm is the source of our food. Some children live on farms or have relatives whose farms they visit, but to others, the farm is unfamiliar. Learning about a farm provides fun experiences for children in either situation. Preschoolers will remember fond experiences with animals, crops, and the big red barn.

Let's Explore the Farm encourages children to learn about the farm and its operations. Children will get to milk a cow, plow a corn field, and feed the chickens. Children can share their real and/or imagined experiences on the farm. (Read more about *Let's Explore the Farm* on page 4.)

Materials:

Macintosh Computer, LC III or later
Let's Explore the Farm, software published by Humongous/Random House
Display in the library corner any books about the farm i.e. *Barn Dance*, *The Chicken Book*, or Little *Red Hen*

Ahead of Time:

The teacher should examine the program *Let's Explore the Farm*.

Introductory Activity:

Read a story about the farm, such as *Farming* by Gail Gibbons or *My Farm* by Alison Lester, aloud to the children.

Discuss with the children the various animals, equipment, and buildings on the farm. Talk about what each of these things do on the farm. The children can help identify animals and make animal sounds. Discuss planting and harvesting, and the equipment which might be used.

Computer Activity:

Children can view and interact with *Let's Explore the Farm* individually or in small groups during center time. You might ask the children some of the following questions as they view the program: Do you live on a farm? What animals might you see on the farm? Have you ever seen a red barn? What does a farmer do in the barn? Would you like to live on a farm?

Extended Activity:

Children can create a farm classroom book about their visit to the farm using *HyperStudio*. Children can draw a picture of their favorite thing about the farm and dictate stories.

Line objects up that are farm related (i.e. toy tractors, Indian corn, animals) and then take one away. Let children guess which object was removed and let them talk about its relationship to the farm

Create an Egg Away game by using plastic colored eggs and baskets with handles that are lined with hay. The children toss the eggs in the basket. To make the activity harder, move the basket back and forth. When eggs have been tossed, have the children sort the eggs by color. You could also hide small farm related items inside. Children can tell you about the hidden item.

Summary:

The computer program presents the farm to children in a fun and exciting manner. Children will be learning about agriculture and how it effects their lives. Exploration of the computer program sparks children's interest and curiosity.

See pages 6 and 7 for curriculum integration ideas

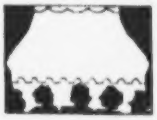
LET'S EXPLORE THE FARM
CURRICULUM INTEGRATION IDEAS

FAMILY CONNECTIONS

- Children could bring items from home for the Farmer's Market
- Invite parents for harvest time of the class garden
- Parents could join snack time and taste various soy bean products

LITERACY LINKS

- Make and display signs for the Farmer's Market
- Compile a class book about their visit to the farm
- Chart favorite farm animals
- Write stories about experiences with Buzzy on the farm



DRAMATIC PLAY

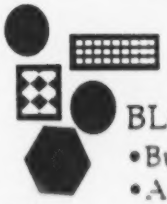
- Provide a farmer's prop box
- Make the play area into a Farmer's Market
- Set out red brick blocks and let the children build a barn. Provide stuffed animals and hay.

RELATED SOFTWARE

- Look at other programs with farm related activities:
  - **The Playroom**
  - **The Backyard**
  - **Big Job**
  - **How Things Work in Busytown**
- View HyperStudio stacks about the farm that were created in other classrooms.

EXTENSIONS BEYOND CLASSROOM

- Visit a local farm and/or Agricultural Industry
- Take a field trip to a grocery store and explore the produce area
- Invite a farmer to visit the classroom and he/she might bring an animal
- Visit an apple orchard in the fall



BLOCKS/MANIPULATIVES

- Build a barn out of blocks
- Add plastic animals, toy tractors, dirt, and hay to the block area
- Display pictures of the farm fields and machinery
- Use construction toys to build fences

LET'S EXPLORE THE FARM

CURRICULUM INTEGRATION IDEAS

COOKING/SNACKS

- Try different types of eggs
- Taste various corn products
- Drink milk and eat cheese with crackers
- Make butter and eat with homemade bread

CONSTRUCTION

- Cut pictures from magazines and catalogs. Paste on construction paper and design a farm.
- Use popcicle sticks to build fences for farm animals in the block area.

ART

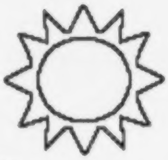
- Print with vegetables and paint
- Paint or collage with hay pieces
- Make farm animals from clay and/or play dough
- Use egg shells and feathers for collage materials

SENSORY

- At the sand/water table add corn kernels, beans, or dirt
- Taste and smell soy beans and soy bean products.
- Put vegetables in a sack and let children feel and guess what vegetable it is.

SCIENCE/MATH

- Hatch baby chicks and chart information
- Plant a garden and harvest the crop or grow carrots or potatoes in water
- Sprout lima beans in a baggie
- Sort plastic farm animals by size, color, & kind (four legs)
- Sort colored eggs

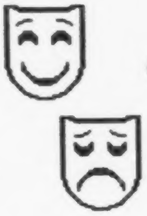


OUTDOOR PLAY/MOTOR

- Egg Toss
- Milk Pail Relay - fill pails with water and carry to a milk can
- Imitate various animals - walk like on hands and feet (all fours) or flap arms and move like a chicken

RELATED BOOK, POEMS, STORIES

- Display non-fiction books about the farm
- Teach the children finger plays with a farm theme
- Books: Barn Dance The Chicken Book, Little Red Hen, Old MacDonald



GROUP/INDIVIDUAL STORY EXPERIENCES

- Act out a story about the farm
- Sing songs with a farm theme i.e. Old MacDonald Had a Farm
- Put up a puppet stage and farm animal puppets for play

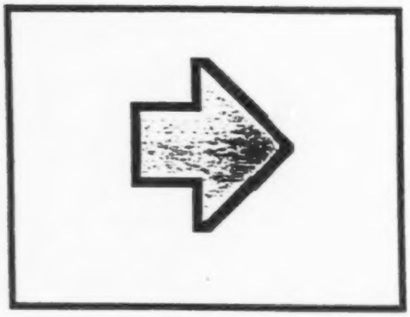
Levels of Touch Tablet Use: Just Grandma and Me

by Linda Robinson, Coordinator, and Carol Schneider, Technology Specialist, Project TTAP

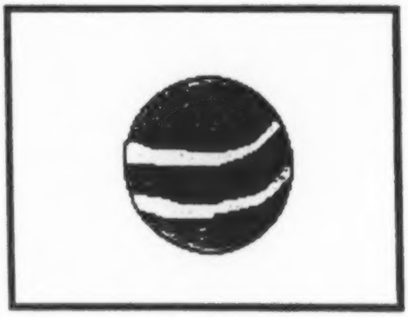
A progression of skills can be defined for young children who are beginning to use the Key Largo for computer access and who will eventually use the device for communication. At the first level, skills of attending to the overlay and causality of pressing the overlay to make something happen on the screen are encouraged. At the next level an option is added to activate a random character or object on the screen. As the levels progress, the child is presented with more choices and more opportunities for interaction with the program. Through these overlays and activities the child begins to learn how to make choices and use the device to accomplish her desired goal. By mastering these skills she will then be able to use the Key Largo or a similar touch tablet as a communication device. The child can indicate what she wants to eat or drink through customized picture overlays. These levels of touch tablet use also prepare a child for future use of a sophisticated communication device, such as the Liberator.

Four of the levels of overlays are presented here to provide ideas on using a commercial software program, such as *Just Grandma and Me* (Brøderbund), Ke:nx, and Key Largo to work on a progression of skills. Similar overlays and activities could be created using IntelliKeys and *Overlay Maker* (InteliiTools). Fifth and sixth level overlays have been defined by Project ACTT and are contained in the new version of ACTT's curriculum guide, available in the spring.

Level 1

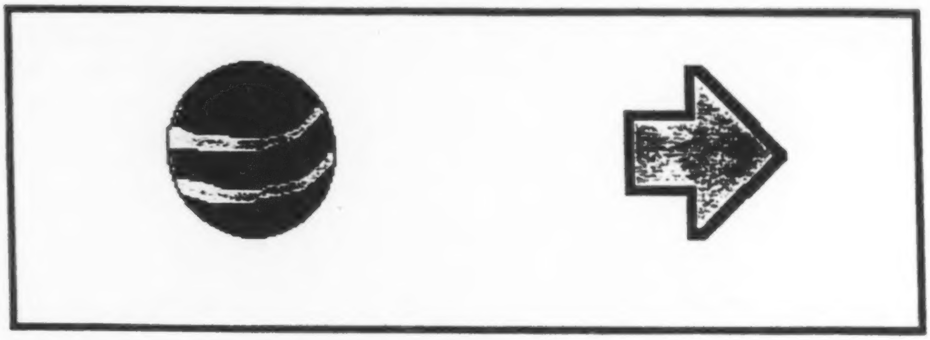


Option #1
Turn the page.



Option #2
Turn the page.

Level 2



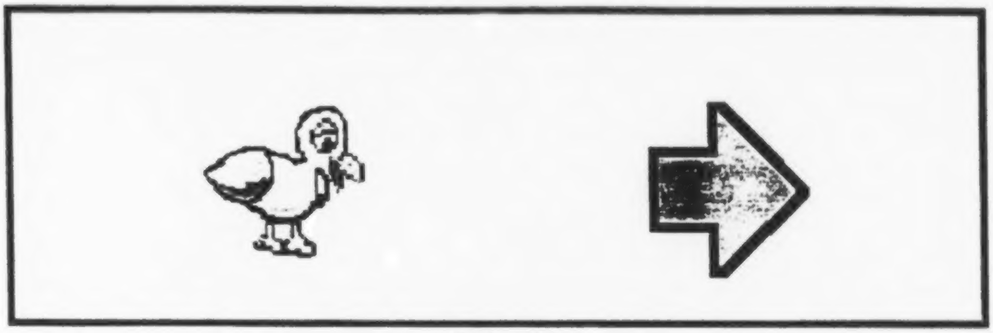
Option #1
Read the story and turn the page.

IntelliKeys® [computer hardware]. Novato, CA: IntelliTools, Inc
Just Grandma and Me [CD-ROM]. 1992. Living Books
Ke:nx ® [computer hardware/software]. Wauconda, IL: Don Johnston, Inc
Key Largo™ [computer hardware]. Wauconda, IL: Don Johnston, Inc
Overlay Maker [software]. Novato, CA: IntelliTools, Inc

continued on page 9

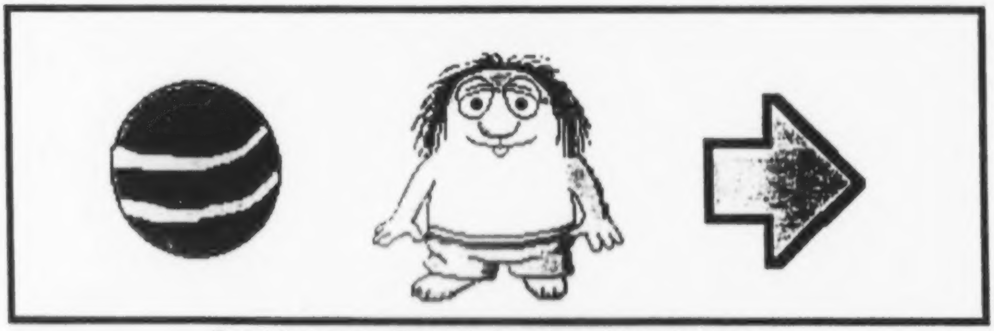
***Overlays* continued from page 8**

Level 2



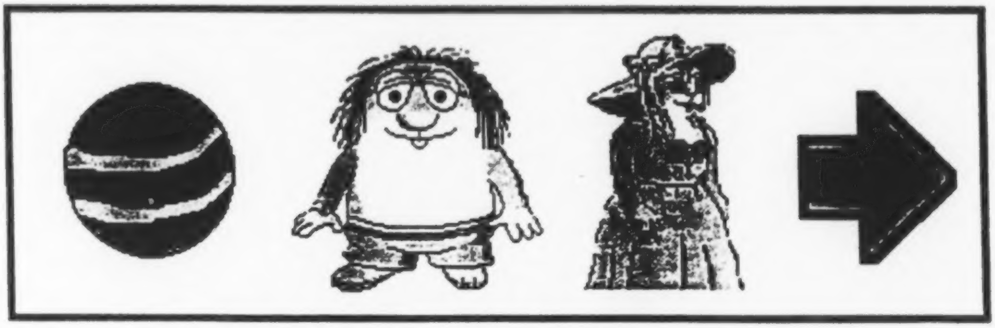
Option #2
Random hot spot and turn the page.

Level 3



Read the page, Critter hot spot, and turn the page.

Level 4



Read the page, Critter hot spot, Grandma hot spot, and turn the page.

Just Grandma and Me, © 1992 Living Books. Graphics used with permission.

Using Nursery Rhymes and Song Lyrics With Emergent Readers

by Kathy Barclay, Co-director Project ELIPSS

The rhyme, rhythm and repetition found in nursery rhymes, songs, and poems is very appealing to young learners. Like predictable books, nursery rhymes and song lyrics contain features that help children to make the link from oral to written language in a very natural way. Using familiar stories, songs, rhymes and poems provides a sense of control and confidence as young children are developing important initial understandings about reading and writing.

Children need many opportunities to extend their enjoyment and understanding of stories. Popular extension activities include creating new verses to a song or rhyme, writing and illustrating a new version of a familiar story, retelling a story using props, movement or drama, and participating in related art, music or even cooking activities. There are several very good software programs containing popular songs and rhymes. Such programs, when used in an integrated fashion with other curricular activities, provide young children with another tool for gaining important language and literacy skills.

Following is a step-by-step strategy for using nursery rhymes and song lyrics to promote early reading interests and abilities. Also included are software reviews for four programs containing popular rhymes and songs.

Using Nursery Rhymes With Emergent Readers

Mary, Mary Quite Contrary

Mary, Mary, quite contrary,
How does your garden grow?
With silver bells and cockle shells
And pretty maids all in a row

Introduction: This rhyme is ideal to use when children are involved in a study of seeds and plants. A field trip to a flower garden, florist, or farmer's market to look at different kinds of flowers would provide children with important *first-hand* experience with flowers. At the start of this lesson, talk about kinds of plants that grow in gardens. Make a list on chart paper. Tell children you have a rhyme to teach them about a girl named Mary and what she grew in her garden.

Procedure:

Day One

1. Show children a picture of Mary and her garden. Talk about the flowers shown and tell children their names: silver bells, cockle shells. Recite the rhyme several times until children are familiar and can join in.
2. Discuss unfamiliar words and phrases: *quite contrary, maids.*
3. Invite children to dramatize the rhyme. Ask: What would Mary be doing in her garden? What might she be holding? (Watering can? Basket to put cut flowers in?) How would she look if she were *contrary*?
4. Invite children to spend time in the learning centers.
5. Invite children to spend time at the computer, using one of the software programs reviewed below.

Day Two

1. Show the children a poster with the rhyme written on it. (Be sure to use correct upper- and lower-case letters, and leave enough space between words and between lines of print for young eyes to follow along.)
Tell the children that this is what the rhyme looks like in print. Read the rhyme several times, using a pointer to point to each word, and inviting children to follow along, joining in when they are able. (Praise the children for their great reading!) Let children take turns pointing and reading, if they would like. (Don't expect that they will be able to point correctly to each word as it is read. Accept their attempts. This is a skill that will come, in time.)
2. Point out that the words "Mary" and "and" appear more than once in the rhyme. Older preschoolers may be able to find the matching words.
3. Talk about what else grows in a garden. Make a list on chart paper. Write some of the children's suggestions on cards the same size as the words "silver bells" and "cockle shells." Cover with the new words and reread the new version of the rhyme, using children's names in place of "Mary," and new describing words in place of "quite contrary." For example, "Rene, Rene, happy Rene. How does your garden grow? With daffodils and pink roses, and yellow daisies all in a row." These new versions of the rhyme could be written on the computer. Children may illustrate their new versions using the art tools on the computer; or they may wish to print out just the text, adding their own illustrations at the classroom art center.
4. Children may want to act out the rhyme again. Suggest that they show how a seed grows into a plant. They might start out curled up in a ball, then slowly unfold, spreading arms and hands to show the plant's leaves beginning to grow.
5. Invite children to visit the learning centers again today, including the computer center.

Day Three

1. Read the rhyme, pointing to each word on the chart. Invite children to join in. Ask if any children want a turn to point and read.
2. Make a class Big Book of the rhyme by writing one line of the rhyme on each page. Invite children to illustrate.
3. Continue with learning center activities.

Day Four

1. Continue to reread the rhyme, inviting children to join in, and to take turns pointing to the words.
2. Give each child a copy of the rhyme to draw their own pictures. (These may be done on the computer.) Put each line of the rhyme on a separate

continued on page 11

Nursery Rhymes continued from page 10

half-page of paper. Put the pages in order to make a little book for children to take home to read. (Don't expect that children's pictures will look like the ones on the chart. Accept their unique responses.)

3. Continue with learning center activities.

Day Five

1. Continue to reread the rhyme, inviting children to join in, and to take turns pointing to the words.
2. Invite each child to dictate words to make a new rhyme (similar to group activity on Day Two.) Children can illustrate their pages. Display their pages on a large wall display, and "read the wall" with the children.
3. Continue with learning center activities, including the computer.

Learning Centers

Art Center

*Provide a variety of materials (pipe cleaners, construction paper, cupcake papers, buttons, colored tissue paper, etc.) for children to use in making their own flowers and/or flower collages.

*Make a class flower garden on wall or bulletin board. Involve children in making decisions about what needs to be in their garden and how each item might be made (grass, sky, sun, etc.)

Science Center

*If possible, have real flowers for children to look at, smell, touch, and even take apart.

*Provide flower seeds, dirt and small containers for each child to plant a seed and watch it grow.

*Put some seeds in a moist paper towel and enclose in a ziplock bag. Children will enjoy watching the seeds develop roots.

*Put a potato in a jar of water to watch the roots grow.

*Plant some grass seeds or scarlet runner beans, so children can see a plant that will grow fairly quickly.

*Keep a class log, and invite children to keep their own logs, about plant growth.

Math Center

*Bring in several seed packets with larger-sized seeds. Let children sort and count seeds.

*Measure and graph plant growth.

Reading Center

*Add books about flowers and plants. Good ones include these by Lois Ehlert: *Planting a Rainbow, Eating the Alphabet*, and *Growing Vegetable Soup* .

Dramatic Play Center

*Bring in artificial flowers and plants, plastic pots, vases, ribbon, paper, etc. Suggest that children may want to set up a flower shop. Ask what else they might need. If they have been on a field trip to a florist, talk about what they saw there: telephone, order forms, cash register, play money, cards for sending with flowers, etc.

Computer Center

*Invite children to use one of the computer software programs, such as *Mixed-Up Mother Goose* or *Multimedia Nursery Rhymes*. Children may also want to use a drawing/writing program, such as *Kid Pix* to write or dictate and then illustrate new versions of familiar rhymes.

Using Songs With Emergent Readers: Sample Lesson Plan

The Wheels On The Bus

Introduction:

This well-known song is a favorite of many young children. It is also a natural choice for use during a transporation unit. Try to provide some first-hand experience with a bus before using this extended lesson plan. If a trip on a bus is not possible, perhaps a bus driver might come as a guest speaker. Talk about how a bus is alike and different from other vehicles, such as cars, trucks and subways. Talk about children's experiences in riding a bus. Where does the bus take them? What does a bus look ljke? Do you need a ticket or money to ride a bus? Do all buses look the same?

Procedure:

Day One

1. Sing the song with the children, inviting them to suggest hand motions.
2. Show the song picture book, *The Wheels On The Bus*, and talk about the pictures used in the book. Read the book, inviting children to talk about any differences in the book version and the song version.
3. Invite children to spend time in the learning centers.

Day Two

1. Show the children a poster with the song written on it. (Be sure to use correct upper- and lower-case letters, and leave enough space between words and between lines of print for young eyes to follow along.) Tell the children that this is what the song looks like in print. Sing the song several times, using a pointer to point to each word, and inviting children to follow along, joining in when they are able. Let children take turns pointing and singing if they would like. (Don't expect that they will be able to point correctly to each word as it is read. Accept their attempts. This is a skill that will come, in time.)
2. Point out that the words "wheels," "bus," and "round" appear more than once in the first verse. Older preschoolers may be able to find the matching words. Use pictures of a bus and wheels for children to match to the words on the chart, or draw the pictures right on the chart next to the words.
3. Encourage the children to add other words and motions. Make a list of their ideas on chart paper. Sing the song with their ideas.
4. Invite children to visit the learning centers again today.

Day Three

1. Sing the song again, pointing to each word on the chart. Invite children to join in. Ask if any children want a turn to point and sing.
2. Put the words and pictures to the song on cards to use in a pocket chart. After singing the first verse, change the picture card of "wheels" to "driver" and sing again. Repeat, using new pictures for each verse and pointing to each word or picture card as it is sung.
3. Make a class Big Book of the song by writing one verse of the song on each page. Invite children to illustrate.
4. Continue with learning center activities.

continued on page 14

Curriculum Guide Enhances Software's Focus on Art Activities, Museum Exploration

One of the best ways to integrate art and art experiences into the classroom for children with disabilities is to use *ArtSpace*, an interactive Macintosh CD-ROM, *available only through Macomb Projects* that allows children to take a journey through a museum and art studio, exploring over 500 pieces of art and learning about how the artwork was created.

ArtSpace allows children to "visit" a museum through their computer. What a wonderful adventure for children who might otherwise never have an opportunity to visit an art museum! They can explore at their leisure through galleries containing works of art from famous U.S museums as well as from contemporary artists' personal collections. Or, what a great way to follow up — or prepare children for — a field trip to an art gallery. *ArtSpace* contains a variety of art in a variety of media. Children will be able to hear some of the artists talk about their works, watch artists as they draw or sculpt, or listen to comments others have made about the pictures or sculpture.

The entire focus for the making of *ArtSpace* was children and art. *ArtSpace* contains an entire gallery devoted to children's art. All stages of child art are represented, from scribbles to representational images. Videotapes of children creating and discussing their artwork are included for a true multimedia experience. Works of art from fingerpainting to wood sculpture and marker drawings to collages are represented. What's more, each work is presented with its own music or sound effect. It's fun to explore *ArtSpace* because you're never sure what you might see or hear next!

But we really LOVE The Studio, a special part of *ArtSpace* where children with physical disabilities, who might never have been able to create art, can have *simulated* drawing and painting experiences using a mouse, a switch, or a TouchWindow. Each click or touch causes a new segment of the drawing or painting to be revealed! And each segment is accompanied by music or sound effects. What a good time children have with it! And, although the *ArtSpace* Studio was designed with children with disabilities in mind, the fun is not limited to them. Children without disabilities (and, to be honest, adults too) have a great time using The Studio and printing the pictures.

ArtSpace's easy access makes it an excellent resource for the inclusionary classroom. Multiple menu options permit you to adapt the software for many different needs. *ArtSpace* provides many activities, and *all children can participate*! These shared activities help children to develop a sense of community. Group activities using *ArtSpace* stimulate communication through social interaction. Children take turns selecting the next place to visit in *ArtSpace* or deciding which art works they would like to see more closely. We know sharing and turn-taking are essential learning components—as well as a source of peer interaction and communication—but the children are just having a good time with each other and with *ArtSpace*.

While exploring *ArtSpace*, children can explore art of various styles, learn about art materials, and discover the processes artists used to create a work of art. Drawing, painting, sculpture, and collage materials and processes are introduced by short videos accompanying many of the close ups of the art in the Adult and Children's Galleries. Watching the videos of adult and child artists at work motivates some children to explore and discover new ways to use their skills in the classroom.

Why do we encourage you to purchase a copy of *ArtSpace* for your home or classroom? First, its interactive art experiences can be used to integrate the arts into the early childhood curriculum—and we've already pointed out how important we think art is to the developing child. Second, *ArtSpace* promotes the arts using developmentally appropriate methods for all young children, including children with disabilities, by offering opportunities to explore art in a variety of ways. Third, children are able to make their own choices while exploring, observing, and interacting with *ArtSpace*. Exploration and experimentation provide children with personal conclusions drawn from first hand observations. Finally, it's FUN! And, as CD-ROMs for your home or classroom are concerned, relatively INEXPENSIVE—$29.95!

The companion piece to *ArtSpace* is its curriculum, which contains great ideas for using *ArtSpace* in the classroom. The five-part curriculum explains the rationale behind the software, discusses the benefits an art curriculum has for young children, and is filled with tips for using the software, evaluating children's participation in the arts, and integrating art-related activities across the curriculum. The *ArtSpace Curriculum* is not sold separately. Cost for both the curriculum and the software is $49.95.

Send purchase orders to Macomb Projects, 1 University Circle, 27 Horrabin Hall, Western Illinois University, Macomb, IL 61455 or fax them to 309/298-2305.

Macomb Projects Hosts Technology Assessment Training

Macomb Projects' TTAP: Technology Team Assessment Process invites you to learn about technology team assessment. TTAP schedules several three-day training sessions at Western Illinois University each year. Content is based on a team approach to technology assessment developed by TTAP. During the training, participants learn how to select equipment and software for an assessment, how to evaluate positioning and equipment placement, and how to determine input method and curriculum applications for children, birth to eight years, with mild to severe disabilities. Participants receive "hands-on experience" with the process by actually planning and assessing a young child's technology needs as team members.

At this time TTAP is taking applications from sites who are interested in adopting our technology assessment model. There is no registration fee for those who are willing to adopt the TTAP model into their program. For further information on training dates, adoption site requirements, the training agenda, and a registration form, please contact Linda Robinson, Macomb Projects, 27 Horrabin Hall, Macomb, Illinois 61455, 309/298-1634, 309/298-2305 (Fax), or by e-mail, L_Robinson1@wiu.edu.

NCIP Web Site Discussion Groups

The National Center to Improve Practice has an impressive site on the World Wide Web that you will want to check out (http://www.edc.org/FSC/NCIP). Five topics are available for discussion groups. The site includes these discussion folders:

- Inclusion, led by Harriet Copel, who will address questions about resources and measuring the success of inclusion;
- Software/Hardware, led by Ken Gillam, who will address questions about chosing software and hardware and integrating technology;
- A.A.C., led by Yvonne Gillette, who will address effective communication strategies, pros and cons of word prediction vs codes, and creative uses of light technology;
- Early Childhood Technology, led by Carol Schneider, who will address setting up environments and integrating technology into an early childhood curriculum;
- Assistive Technology, led by Helen Virga, who will address personnel preparation, training, equipment maintenance, and appropriate adaptations.

NCIP is located at Education Development Center in Newton, MA. The project is funded by the U.S. Department of Education's Office of Special Education Programs.

Company Offers Discounts on Software and Hardware

The Software Source Co., Inc., a leading retailer of software and hardware on the Web, offers discounts to students, teachers, and schools on products by all major manufacturers. The discounts range from 30% to 80% off retail prices. Order a free catalog by calling 800/289-3275. Browse the company's web site at http://iaswww.com/source.html

Free Manual Available for Ramp Construction

The Minnesota Ramp Project has a FREE construction manual: "How to Build Ramps for Home Accessibility" and has produced an award-winning video, "Home Access Solutions: Ramps and Stairs" that demonstrates how to make affordable, reusable, modular wheelchair ramps and long-tread, low riser stairways. Contact Minnesota Ramp Project, 612/646-8342.

Spend some time on the World Wide Web by checking out the following sites:

Laureate
http://www.LLSys.com

Macintosh Software
http://hyperarchive.lcs.mit.edu/HyperArchive.html

Minnesota Department of Children, Families, and Learning
http://www.educ.state.mn.us/speced/Astcov.HTM

NASA
http://www.nasa.gov/NASA_homepage.html

The National Arts and Disability Center
http://www.dcp.ucla.edu/nadc/

National Center to Improve Practice
http://www.edc.org/FSC/NCIP

T.H.E. (Technology Horizons in Education) Journal
http://www.thejournal.com

Tour of the White House
http://www.whitehouse.gov

Nursery Rhymes continued from page 10

Day Four

1. Continue to use the song chart, inviting children to join in, and to take turns pointing to the words.
2. Invite children to make their own bus book by illustrating a copy of the song, or by dictating new words to illustrate.
3. Continue with learning center activities.

Day Five

1. Continue to use the song chart, inviting children to join in, and to take turns pointing to the words.
2. Invite each child to dictate words to make a new song, using the name of a different vehicle: truck, car, train, etc. Children can illustrate their page and bring to the circle to lead the group in singing each new song. Display pages on a large wall display.
3. Continue with learning center activities.

Learning Centers:

Block Center

*Provide a variety of boxes for children to use in constructing buses and roads for the buses to drive on. If you have toy buses, add them to the block area this week.

Art Center

*Take some time this week to let children explore dipping various sizes of toy vehicles into paint to make "wheel tracks" on large pieces of paper.

Science Center

*Let children test wheels of differing shapes. Cut triangle, square and circle "wheels" from stiff cardboard. Insert a small peg through the center for the axle. Children can roll to see which rolls the easiest, why it does, and which shape makes the best wheel.

Math Center

*If possible, collect a variety of old toy wheels for children to sort and count by size.

Reading Center

*Add books about vehicles.

Dramatic Play Center

*Make a big classroom bus from a large refrigerator box. The box can be cut to stand beside a row of chairs serving as the bus seats. If possible, let children paint their bus. Add props, such as a cap for the driver, change purses and play money, bus tokens, shopping bags, etc.

Listening Center

*Add an audio tape and a copy of the song picture book for children to listen to and follow along.

*Use blank tapes and tape record the children singing the song to add to the listening center.

Computer Center

* Add software programs such as *This Is The Way We Wash Our Face* and *Wheels On The Bus* to the computer center (see page 15). Children may also want to use a writing and drawing program, such as *Kid Pix*, to create their own song-picture books, or to write and illustrate new verses for favorite songs.

Nursery Rhyme Software Extends Emergent Literacy Activities

Mixed-Up Mother Goose

As the title indicates, the Mother Goose rhymes are mixed-up. Jack and Jill's pail is lost, Bo Peep can't find her sheep (it's probably WAY over the hill or down by the river). The cow has postponed her jump over the moon because the cat misplaced the fiddle! Eighteen of the famous Mother Goose folks have lost important parts of their rhymes and are waiting for help. As a part is found and returned to the owner, the player receives a golden egg. If an activity is started and not finished, (and that is a real possibility) it is saved when play is stopped. The next time that child returns to the computer to help Mother Goose, she can resume where she left off. All the found pieces are found and the missing pieces will be in different places. When pieces are found and returned to their rightful owners, a jazzed up version of the traditional rhyme is sung. The prerequisite for this software program would be at least a familiarity of Mother Goose rhymes and no small amount of patience. It takes time to fix all the rhymes.

Publisher: Sierra On-Line
Price: $65.00
System Requirements:, Macintosh LC or later, Color Monitor, System 6.0.7 or later, System 7.0 recommended
3 MB RAM, Optional: switch and switch interface

Multimedia Nursery Rhymes

This program allows children to enjoy 40 interactive nursery rhyme favorites brought to life by the magic of multimedia. Children have the choice of People Rhymes, Singing Rhymes, Animal Rhymes, or Fingerplays. Clicking on the animals allows them to move and talk to you. If you follow Jack and Jill up the hill, you'll find out if they ever get that pail of water. This program is available for Windows, Windows 95, Macintosh, and on CD ROM.

Publisher: BeachWare
Price: $19.95
System Requirements: Macintosh, Color Monitor(256 colors required), 4 MB RAM, CD-ROM drive

continued on page 15

EMERGENT LITERACY TRAINING AVAILABLE ON VIDEO

Project ELIPSS (Emergent Literacy Instructional Programs and Support Service), a Head Start project funded by the U.S. Department of Health and Human Services, recently completed its series of eight satellite broadcasts on the subject of emergent literacy. Videotapes are now available of those broadcasts.

The six staff development training modules include videotapes of each program (1 hour) and viewing guides containing handouts and resources relating to the video's content. These modules include

1) *Building a Firm Foundation for Early Literacy Development: Language and Literacy Learning*, which provides a framework of ideas about the development of reading and writing that has influenced strategies for emergent literacy.

2) *From Scribbling to "Real Writing: Stages in Early Writing Development* demonstrates the developmental stages of writing and introduces a variety of strategies for promoting emergent writing.

3) *Developing a Literacy-Rich Environment* includes resources and information to enable teachers and parents to evaluate their learning environments with respect to literacy and explains how to enrich those environments to extend literacy activities across the curriculum.

4) *Making Quality Children's Literature Available to Every Child: Choosing and Using Literature* offers suggestions for selecting a variety of literature with children at home and in the classroom.

5) *The Shared Language Time: Beginning Reading Through Rhymes, Songs, Poems, and Big Books* contains procedures for conducting the shared language time using materials designed to acquaint young children with the functions, forms, and conventions of print. Also included are strategies for encouraging children to respond to literature through a variety of hands-on activities, including technology, art, music, drama, and writing.

6) *Ongoing Assessment of Emergent Literacy Behaviors* provides examples of how teachers might create and implement developmentally appropriate assessment procedures and how the information might be conveyed to parents.

Persons responsible for staff development in the area of literacy will also find the two ELIPSS Literacy Resource Coordinator videotapes helpful. These contain a variety of strategies targeting staff development as well as providing information on how to use the six modules. The accompanying guides give tips for using the materials, activities to do prior to watching the videos, and suggested discussion questions.

The videos and viewing guides may be ordered individually or as a set. Contact Project ELIPSS at 309/298-1634 for ordering information.

UCP PREPARES TO FIGHT FOR ASSISTIVE TECHNOLOGY

United Cerebral Palsy Association would like people to send them examples of children's IEPs that include consideration of assistive technology. Please send a statement outlining what is on your child's IEP and how it benefits him or her to

Christopher Button
UCPA, 1660 L. Street, NW,Suite 700
Washington, DC 20036

Information received will be used to combat a move now underway to remove assistive technology from the IEP process when IDEA is reauthorized.

Emergent Literacy Software continued from page 14

Wheels on the Bus I, II, & III

In this software program, the popular nursery school song is activated to sing five verses by clicking on the corresponding picture. In program one, the verses are mommie, baby, doors, kids, and horn. The second program contains the verses driver, wheels, wipers, windows, and daddy. The verses on the third program consist of people, money, brakes, seatbelt, and wheelchair lift.

Publisher: UCLA Microcomputer Project

Price: $35.00 PowerPad; $35.00 TouchWindow; $36.00 Intellikeys; $35.00 MS DOS

System Requirements: Apple II Series, Apple IIGS, Macintosh w/ IIe card, MS DOS, PowerPad, IntelliKeys, Touch Window, Echo II

This is the Way We Wash Our Face

Children using this software program will have hours of fun singing and watching animation with this familiar nursery song. This is the Way We Wash Our Face can be used for cause and effect activity, sequencing or as a group activity. It will also go along with a unit on daily living skills.

Publisher: UCLA Microcomputer Project

Price: $35.00

System Requirements: Apple II Series, Apple IIGS, Macintosh w/ IIe card, PowerPad, IntelliKeys, Echo II

Software Reviews from Macomb Projects' *Good Leads for Software Needs: Suggested Macintosh Software for Young Children* and Project ELIPSS Module 5: *Shared Language TIme: Beginning Reading Through Rhymes, Songs, Poems, and Big Books*.

Software Review

Take a Musical Adventure with Lamb Chop!

by Amy Betz, Curriculum Specialist, Expressive Arts Project

Take your children on an adventure in *Lamb Chop® Loves Music* with Shari Lewis and that lovable sheep, Lamb Chop. The program is based on the classic tale "The Musicians of Bremen." Lamb Chop joins the musicians and assists them along the way.

Children have the option of hearing the story in the "Look and Listen" mode or of interacting with the story in the "Play Along" mode. In the "Play Along" mode, the cursor becomes Lamb Chop's paw and turns into a "thumbs up" sign when over a hot spot, easily allowing children access to the many hot spots with music or animation.

The music used throughout the story covers a wide range of musical tastes, from the classics to jazz, rock, and even TV theme songs. The children get to select what type of music (classical, marching, jazz, or rock) will be performed at the concert in Bremen.

Two substories are also included in the "Play Along" mode, one is about Little Bo Peep and her lost sheep and the other is about a farmer and his runaway tractor. Little Bo Peep can be seen hanging up lost posters or calling for her sheep. The farmer is being chased across the countryside by his out-of-control farm machine. The music and animation are terrific! Live-action video of Shari and Lamb Chop is also included.

A good feature of the program is that if you don't want to hear the prompts, a click of the mouse will stop them.

Lamb Chop® Loves Music offers a variety of games for children to explore. Most of the games help develop auditory discrimination for a particular instrument or for a portion of a song. If there is a "right answer" and the child makes a wrong choice, positive reinforcement and cues are provided. Children can also press certain icons to hear the sound again if they forget.

Up to five instruments are played in "The Musical Memory Game". The object in this game is to recall the sequence in which the instruments were played. The game starts with three of the five musicians playing. The game automatically becomes increasingly difficult if the child correctly identifies the sequences.

In "The Wacky Musicians Game," players identify the correct sound of an instrument. What looks like a trombone may sound like a drum. The children gong the player if the wrong sound plays or ring the bell if the correct sound is played.

"The Find the Sound Game" has a room filled with many instruments. When the Musical Note button is pressed, music is played. The goal is to find the instrument that makes that sound. When children have correctly matched five different instruments, they win the game! Similarly, "The Stop the Robbers Game" offers children a more limited choice of instruments. Children are to identify the right instrument before the robber can take the instrument. The more often the children guess correctly, the faster the robbers will move!

Songs are divided into four sections with four accompanying picture icons in "The Song Jumble Game." Children can click on the pictures and place them in any order and then click on the trumpet to hear how their song will sound. If the song is in the correct order, Shari will congratulate them. If the songs are in a different order, Shari will say, "I've never heard that song before!"

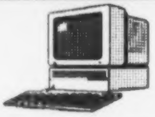
Children can learn about many different musical instruments, hear how they sound and see how they are played when visiting the Music Store. The instruments are divided into Strings, Woodwinds, Brass, and Percussion. The cat, horse, raccoon, and bear from the story demonstrate how to play some of the instruments.

Children and adults will definitely enjoying playing with Lamb Chop! **Lamb Chop® Loves Music**, published by Philips Media, Inc. has won 11 awards. The CD-ROM for Macintosh and Windows is available for $34.95 from Educational Resources, 15500 Executive Drive, PO Box 1900, Elgin, IL 61121-1900; 800-624-2926.

Useful Information on Adaptive Switches, Augmentative Communication Devices

Academic Software, Inc. has published a second edition of its *Handbook of Adaptive Switches and Augmentative Communication Devices* by Cindy George and Warren Lacefield. Organized in a three-ring binder, the second edition adds 100 new pages. Content includes updated data sheets on commercially available augmentative communication devices (descriptions, pictures, laboratory test data), new chapters and indexes, worksheets, and practical information on ergonomics, physical interaction, seating and positioning, control access, and assessment concerns.

The *Handbook* costs $45 plus $5 shipping. Order from Academic Software, Inc., 800/842-2357; fax 606/231-0725.



Curriculum ACTTivities

Transportation: How We Get Where We're Going?

by Lori Husband, Literacy/Technology Specialist, Project ELIPSS

Introduction to Activity:

Talk about the many forms of transportation.

Air -plane, helicopter, parachute, hand glider, hot-air balloons etc.
Ground -bus, tractor, car, bike, truck, roller skates, horse, wheel chair, walk
Water -submarine, swim, boats, skies, jet skies etc.

Talk about trips children may have taken and how they got there.

Curriculum Integration Ideas:

Computer:

Related Software and Activities:
Busy Town- How It Works; Putt Putt Saves The Circus; Putt Putt Goes To The Moon; Millie's Math House; Let's Explore The Airport

- Take Putt Putt around town to save the circus.
- Make Putt Putt travel to the moon in a space rocket and around the moon.
- Travel around Busy Town with different forms of transportation.
- Fit the shoes on the right feet in Millie's Math House.

Cooking:

Discuss how vegetables, fruit, milk, and other products get to the store so we can buy them. How do they get back home or to school so we can cook with them?

Construction:

Make a map for a board game. The children can decide what needs to be included on the map and where each destination is located.

Have toy cars and trucks available for children to play with.

Have large cardboard boxes available so children can construct their own buses, cars, trains.

Art:

Make pictures of different modes of transportation.

Cut out pictures from magazines and make a transportation collage.

Make a stick horse out of large wrapping paper rolls and cardboard, markers, yarn.

Have children draw pictures of things that happen on the bus. Cut into large bus shape. Cut yellow construction paper into same shape and laminate to make front and back cover for your own *Wheels On The Bus* book.

Science/Math:

Set up a shoe store with different sizes of shoes as in *Millie's Math House*.

Count number of wheels on different vehicles.

Take a survey of the vehicles used in each family and make a graph to show the findings.

Compare numbers and sizes of wheels on different modes of transportation and make a graph showing the findings.

Writing:

Make a map of how we get to the classroom from the parking lot.

Write a story around transportation. This can be done in the children's handwriting, or text can be done on the computer with pictures drawn in later, or the teacher can write as children dictate the story. Laminate the pages and make a book for the book center.

Dramatic Play;

Play "Red Light, Green Light" using the Fisher Price flashlights that can change colors.

Set up bus using chairs or boxes so children can play bus.

Set up a car wash outside and give bikes a good wash.

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Software Review

Stanley's Sticker Stories

by Carol Bell, Coordinator, Emergent Literacy Technology Project

Join Stanley and his friends, Bailey, Millie and Sammy and explore Stanley's town while creating a story using *Stanley's Sticker Stories* (Edmark CD-ROM for Macintosh or Windows). When joining Stanley, you will need to type in your name and choose to make a new story, open an old story or check to see how a story is made. If you did not understand the directions that Stanley gave you, just move your cursor over a hotspot and the area will be circled in red while you will learn what will happen if you click.

If you choose to create a new story, you will visit the town where you can choose a background for your story. The choices include the beach, Stanley's house, the park, the general store, Bailey's house, the ice cream and candy store, Millie's house, the pond, Sammy's house, the billboard, the school, the school yard, the bus stop, the swimming pool, or the garden. If you click on an area, the area appears in a small window at the bottom of the screen. Double clicking the window or clicking "okay" in the corner will take you to the first page.

On the first page, the menu is positioned along the left side and the bottom. Menu choices include choosing stickers from a variety of themes including friends, neighbors, beach, playground, toys, school, workshop, garden, store, candy store, bedroom, kitchen, home, big letters, small letters, numbers and symbols. More choices can be found for each category by clicking on the arrows on the right and left of the stickers.

Clicking and dragging the stamp onto the background will change the size depending if the stamp was placed towards the front or in the background. After clicking to place the stamp, the stamp remains active and the user can make it larger, smaller, add sound or click to see the animation associated with the sticker. A small book in the menu will allow you to hear information about the sticker including how to spell the name of the sticker.

More options include print, save, clicking on a button to hear the story being played back, an option for a new story, attaching songs or sounds to the story (clicking here will give you favorite tunes from all of Stanley's friends), type in a story to go with the background (changing font, size and color are all possibilities in the text box), trashing the story or choosing to add a new page to the story with a different background. Stanley's sticker stories includes a storyboard where pages can be moved around as you create the story.

If you are a fan of Bailey, Millie and Sammy, you will enjoy *Stanley's Sticker Stories.*

Satellite Offerings Focus on Technology in Classroom

Technology in the Classroom is part of an interactive satellite telecast series sponsored by the Interactive Teaching Network at the University of Georgia. The first technology-related program, *Solutions for Inclusion*, airs on March 17, 1997, from 4:00 - 6:00 p.m. (ET). Topics include Multimedia Instruction, Computer-based Lessons, and Cooperative Learning via Technology.

The second program, *Multimedia for Literacy*, airs from 4:00 - 6:00 p.m. (ET) on March 18, 1997.

More information on these and other programs can be obtained by contacting Laura Clark or Harriet Elder, 800/296-4770 or 706/542-4770; fax 706/542-5877.

Transportation **continued from page 17**

Music:
Row Your Boat
Let's Go Riding In An Automobile
Down By The Station
Wheels On The Bus
Bumpin' Up and Down In My Little Red Wagon
Happy Feet
Smile In Your Shoes
Books:
Curious George Rides A Bike-A. H. Rey
Curious George And The Dump Truck-A. H. Rey
Curious George At The Fire Station-A. H. Rey
Curious George At The Railroad Station-A. H. Rey
Thomas Gets Tricked- Rev. W. Awdry
The Cow On The Line- Rev. W. Awdry
Catch Me Catch Me -Rev. W. Awdry
Trouble For Thomas- Rev. W. Awdry
Little Red Caboose-Marian Potter
Bears On Wheels-Jan and Stan Berenstain
Sheep In A Jeep- Nancy Shaw
The Listening Walk-Paul Showers
Sail Away-Donald Crews
Hey! Get Off Our Train-John Burningham
Hot Air Henry-Mary Calhoun
The Caboose Who Got Loose-Bill Peet
Trains-Ray Broekel
If You Walk Down The Road-Kate Duke
The Truck Book-Bill Gere
Bicycle Bear Rides Again-Michaela Muntean
The Berenstain Bears and the Big Road Race-Jan and Stan Berenstain
Frtiz and the Beautiful Horses- Jan Brett
School Bus-Donald Crews
Elephants Aloft-Kathi Appelt
Fire Engines-Anne Rockwell
Going Lobstering- Jerry Pallotta
Videos:
Kidsongs -Planes Trains and Automobiles
Field Trips:
Take a trip to the airport
Invite a hot-air balloonist to come in for a talk
Watch road construction (from a safe distance)
Ask a bus driver to bring a bus
Ask a taxi driver to bring his taxi

Look I Found a Bug!

by Jennifer Bosworth, Curriculum Specialist, Expressive Arts Project

Have you ever observed a child outdoors closely watching a tumble bug under a rock? Sometimes it seems as if children find bugs everywhere they go. Children have a natural curiosity about insects, worms, and other small creatures. This interest can lead to many discoveries in their environment. When the classroom environment supports in-depth investigation, children can feel confident in their abilities to make discoveries, choices, and conclusions. When bugs become a major topic of conversation, the children in your class are ready to start a project.

Finding answers to the questions the children or teacher ask is the main outcome of a project. The goal of a project is to learn more about the topic. The children might come up with many different answers to their earlier questions.

One of the best ways for a teacher to prepare for a project on bugs is to work with the children to create a web. A web is a brainstorming tool which is used to gather as many ideas about a topic as possible. This is the first phase of a project. There are many different types, styles, and set-ups of webs. Each teacher who uses a web will have a personal preference. One example of an initial web is to find out the following three things from children; 1) the children's knowledge, 2) the children's experience, and 3) the children's interest. Posting the web in the classroom reminds the children as well as the teacher what experiences, knowledge, and interests need to be addressed during the course of the project.

Later, the teacher can meet with colleagues to plan project related activities. These activities can be stored in the classroom and brought out as the children request or to expand on an interest. All teachers plan for certain curriculum areas. Examples of these areas can include discovery, visual art, language, community, dramatic play, music and movement, and family. Activities can include investigating, drawing from observation, constructing models, observing closely and recording the findings, exploring, problem solving, predicting, interviewing experts, discussing, and dramatizing the children's new understandings.

Projects last as long as the children show interest. Teachers can provide new encouragement, but even then a few children will lose interest. When the project is over, it is time for culminating and debriefing events. All of the new knowledge that children have gained is represented in their drawings, graphs, charts, diagrams, paintings, murals, models and other constructions, and the communicating children have done with their peers and families. Displays can be made presenting all of this new knowledge. A family night might be planned for the children to "show off" their expertise.

Ways to extend project interest:

- Provide materials for constructing various bugs.
- Provide drawing materials, clip boards, and plenty of time when making observations (inside or outside) so that children can document their findings.
- Create an environment for different creatures such as an ant farm, a caterpillar home, or a butterfly garden.
- Provide plenty of books about various bugs and creatures, fiction, nonfiction, and informational books.
- Use the computer as another extension activity. *Kid Pix* can be used for drawing, *Millie's Math House* can be used to "Build a Bug", and the *Backyard* is full of animals and insects. My *First Amazing Dictionary* is fact finding software with many different creatures. Using *Hyperstudio,* the teacher and students can animate drawings from many sources. Pictures, drawings, and paintings can be scanned and animated to make a classroom software program based on the children's experiences with bugs.

Calendar of Conferences

December 6 - 8, 1996: Zero to Three Eleventh National Training Institute in Washington, DC. Contact Sharon Godsey, 703/356-8300.

December 6-7, 1996: Tel•ED '96 in Tampa, FL, co-sponsored by ISTE and FACE. Call 541/346-3537.

February 12-16, 1997: 1997 AECT (Association for Educational Communications & Technology) National Convention in Albuquerque, NM. Contact AECT at 202/347-7834 or fax to 202/347-7839.

February 24-26, 1997: 14th Annual Midwest Education and Technology Conference in St. Louis. Call 314/692-1250.

February 27-March 1, 1997: 27th Annual Mid-South Conference on Communicative Disorders in Memphis, TN. Call 901/678-5800.

March 18-22, 1997: Technology and Persons with Disabilities, 12th Annual Conference in Los Angeles. Call 818/677-2578.

March 21, 1997: Early Childhood Technology Conference in Macomb, IL. Contact STARNET, 309/298-1634 or 800/227-7537.

April 1-5, 1997: Society for Information Technology and Teacher Education in Orlando, FL. Contact 804/973-3987.

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